The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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ISSUE OF £10,000 FURTHER CAPITAL.

The Mellanear Mining Company

(LIMITED).

Incorporated under the Companies Acts, 1862-67, with liability expressly limited to the amount of shares subscribed for.

CAPITAL £32,000, IN 8000 SHARES OF £4 EACH.

The original capital of £22,000 has all been subscribed for and fully paid up.

Deposit, 10s. on application, 10s. on allotment. Further calls (if any) at intervals of not less than three months.

DIRECTORS.

WILLIAM GUNDRY, Esq., 20, Throgmorton-street.
WILLIAM HARVEY, Esq. (Harvey and Co.), Hayle.
JOHN HESELTINE, Esq., 9, Warnford-court, Throgmorton-street.
JOHN HOWARD, Esq., 124, Fenchurch-street, E.C.
ROBERT MONTAGU NICHOLAS, Esq., 69, Lombard-street.
ANDREW ROSS, Esq., The Stock Exchange.
WILLIAM NEWLAND RUDGE, Esq., 34A, Throgmorton-street.

BANKERS—Messrs. TWEEDY and Co., Redruth. LONDON AGENTS—Messrs. GLYN and Co.
BROKERS—Messrs. GEO. BURNAND and Co., 69, Lombard-street.
SOLICITOR—A. PULBROOK, Esq., 28, Threadneedle-street.
AUDITOR—HENRY NESBITT, Esq., Ethelburga House, Bishopsgate-street, E.C.
SECRETARY—Mr. GEORGE FENN.

OFFICES—3, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C.

PROSPECTUS.

The issue of new capital by this company affords to the public a more than ordinarily favourable opportunity of making a successful mining investment. Some gentlemen have for seven years past been working the Mellanear Mines, first as a cost-book company, and then under the Limited Liability Act, and during that period they have laid out upwards of £25,000 thereon, apart from the large sums previously expended on the works before they came into possession. They recently discovered the course of ore they were seeking for, and have driven 14 fathoms through a lode of the average worth of 40*l.* per fathom. This course of ore being at a long distance to the west of where it was expected, the present shafts do not effectually command its successful working, hence it has become necessary, in order to develope it, to sink a fresh shaft and erect additional machinery. Having such excellent prospects of opening out an extensive mine, they considered the time had arrived when they should extend their small private company into a larger one, with sufficient capital to carry out the proposed operations. The original shareholders have very fairly stipulated for no premium whatever beyond a right to an allotment of such additional shares as they might be inclined to subscribe for. No promotion money has ever been paid by the company.

Several have already taken advantage of this opportunity and subscribed further capital. The balance remaining unapplied for is placed by the directors at the disposal of the general public, who thus have opportunity of taking an interest in the profits likely to accrue at an early date from the capital of the late proprietors, which has hitherto been so long unproductive to them.

The mine is situate in the parish of St. Erth, near Hayle, in the county of Cornwall, and is held for a term of which 18 years are unexpired, at the more than usually moderate royalty of 1-30th, subject to an increase to 1-24th upon the mine paying its cost.

The engine-shaft has been sunk to the depth of 102 fathoms, and 20 fathoms to the west a skip-shaft has been sunk to the depth of 88 fathoms. At the 78, west of this shaft, after driving 26 fathoms, the rich course of ore averaging 40*l.* per fathom was cut; from this level already 130 tons of 14 per cent. ore have been taken away, which has realised £1200. The floor of the level continues of the same rich character, which is a very favourable indication, as it shows that the ore is going down, and may be expected to increase in value.

Ore has also been met with between the 86 and 98 fathom levels in the engine-shaft, and the 86, of the skip-shaft, with only 3 fms. driving, shows prospects of the near approach of the ore going down in the level above, which in that level was not reached for 26 fathoms.

The adjoining mines, the Great Wheal Alfred, paid £300,000, and the Alfred Consols paid £100,000 in dividends. Each of these mines is to the east of the Mellanear Mine, and on the same lodes. In those mines a large elvan course ran parallel to the lodes, and it was about its junction with the lode in depth that the deposits of copper were found. The same elvan runs parallel to the lodes in the Mellanear Mine, and the mine is now at a depth where the elvan reaches the lode.

The unusually favourable opinions on the undertaking so unreservedly expressed by some of the most competent and cautious mining authorities, must convince those acquainted with mining that this is one of those good investments seldom offered to the public.

The sett is very extensive, and there are other lodes besides the one now being worked. These lodes are pronounced to be very promising for both tin and copper, and as the works extend, and these lodes are cut and proved, fresh discoveries of ore are likely to be made in many directions.

The mine is at present drained by a 76-in. cylinder engine. There is also a water-wheel, and likewise a crusher and winding machinery.

The ore is extraordinarily rich, and at a recent sale its average was the highest of all the other mines. (See *Mining Journal*, November 12, 1870.)

It is intended to apply to the Stock Exchange to have the shares in this company marked on the Official List, so that a ready market may always be found.

Prospectuses, reports, plans, &c., can be obtained at the company's offices, where the original reports and specimens of ore, &c., from the mine can be inspected. Any intending shareholder who would wish to have a report from his own engineer before investing, can obtain an order for an inspection of the mine on making application to the secretary.

THE

Thornhill Reef Gold Mining Company

(LIMITED).

To be incorporated under the Companies Acts, 1862 and 1867.

CAPITAL £20,000, DIVIDED INTO 20,000 SHARES OF £1 EACH.

First issue 15,000 shares, of which 5500 fully paid-up shares will be allotted to the vendor as part of the consideration for the purchase of the property.

5s. per share payable on application, 5s. per share on allotment, and the remaining 10s. per share in two instalments of 5s. each, at three and six months from the date of allotment.

Should no allotment be made the deposit will be returned in full without deduction.

Power will also be taken in the Articles to issue "Share Warrents to Bearer" for shares fully paid-up.

PROVISIONAL DIRECTORS.

Major P. W. SYDENHAM ROSS, United Service Club.
HENRY MONEY WAINWRIGHT, Esq., Solicitor, Dudley.
S. WHITFIELD DAUKES, Esq., Director of the Railway Passengers Assurance Company, 7, Whitehall-place, S.W.
Captain G. W. OLIVER, Junior Army and Navy Club.
CHARLES FAUNTLEROY, Esq., Russell-street, Bermondsey.

(With power to add to their number.)

MANAGER AT THE MINE—WILLIAM SALTER, Esq.
BANKERS—THE IMPERIAL BANK, 5, Lothbury, E.C.
SOLICITORS—Messrs. KIMBER AND ELLIS, 79, Lombard-street, E.C.

This company is formed to acquire and further develope a well-proved rich auriferous piece of land, situated in Green Valley, in the celebrated mining district of Maldon, Victoria, Australia, and the following are the principal statements made in the prospectus:—

The mine is not a speculation, as it has been fully proved. Ten thousand tons of quartz have been taken from the Thornhill reef, and have yielded, according to the Government returns, an average of £5 per ton, or £50,000 sterling.

The Thornhill reef has been further proved for 200 feet below the lowest stope, and for 90 feet beyond the most northern, and it is calculated that forty thousand tons are laid open and ready to be taken away, whilst a small additional outlay will increase this reserve to two hundred thousand tons.

There are two other reefs, one of which has been proved to contain gold, which can be taken away at a large profit, and which can be reached by a cross-cut from the lowest point of the mine 520 feet from surface.

The prospectus states that, with the additional machinery it is proposed to erect, the manager will be able to treat 500 tons per week, which it is estimated will at the very least yield a profit of £34,000 per annum, or 230 per cent. on the paid up capital, and this profit is calculated—

First,—In taking the quartz at less than one-half of the average value it has already yielded.

Second,—In calculating the cost of treatment at 20s. per ton, whereas there can be no reason why it should exceed the average of the colony—13s. to 14s.

Mr. William Salter is well known in the colony for his extensive practical knowledge of gold mining, and will be happy to meet any gentleman at the offices of the company to enter into the fullest explanations as to the position and future prospects of the mine.

Prospectuses, &c., to be had on application to the secretary, Mr. Thomas Thompson, Jun., 5, Whitehall, London, S.W.

In order to secure an allotment, and early application should be made.

STUDENTS' GEOLOGICAL NOTE BOOK.

The first volume* of a concise and useful guide-book to geology, by Profs. MORRIS and JONES, embracing heads and synopses of lectures delivered at the Royal Military College, Sandhurst, since 1866, by Prof. Jones, has just been issued by Mr. John Van Voorst, of Paternoster-row. The work is intended to serve both students and teachers, and there can be no doubt that it will thoroughly answer that purpose. The present is to be followed by a second volume, more comprehensive, with fuller details, and illustrated. The main points in geology and mineralogy are treated of either in detail or in outline, so that teachers will have a guide to the subjects they have to teach, and, if not full explanations of each point, at least suggestive illustrations and useful references; whilst the student will find clear statements and explanations of the things, facts, and circumstances on which geology is based, whether he reads lecture by lecture, or studies them according to either of the eight classifications given him. The object in view is undoubtedly a good one—it is intended to make each teacher and each student think for himself, and form either in his mind or upon paper a complete system for himself arranged in the manner, in his opinion, best calculated to suit the memory or habits of thought of his students or of himself, as the case may be.

The matter of the volume being already condensed to the utmost, it would not be practicable to give an outline; but as an example of the conciseness with which information is given, it may be remarked that in describing the physical characters of the earth, we are told that it is of spheroidal shape, the equatorial being to the polar axis as 299 is to 298, the ellipticity being, therefore, one 299th. The spheroidicity is proved by the difference in length of a degree in an arc of meridian near the poles and near the equator, and likewise by the difference in length of a seconds-pendulum at the equator (39·06 in.) and at the pole (39·281 in.) Water being 1, the specific gravity of the earth is 5·6; but some of its materials, as the metals, are much heavier. Heat must be present to counteract the compressing force of gravity, and the shape of the earth (oblate spheroid) is that taken by a molten mass moving through space, and revolving on its axis; but there is no central fire. Other evidences of internal heat are hot springs, the occurrence of volcanoes, active and extinct, all over the earth, and the increase of heat in descending mines (which for a mile or so equals 1° Fahr. for every 60 feet); but these phenomena may be due to a great extent to chemical causes. This is the substance of one entire lecture, and the advantage of such an outline, whether to the student who has attended a course of lectures, or to one who has read a larger work upon the subject, can scarcely be over estimated. In treating of the characters of minerals, chemical properties of minerals, and of the classification of rocks by their contained fossils, the masses of information compressed into a small space is really marvellous. The volume affords abundant evidence that no labour has been spared in its arrangement, and to the attentive student it will prove as useful for refreshing the memory as a considerable collection of standard books.

* "Geology." By JOHN MORRIS, F.G.S., Professor of Geology and Mineralogy, University College, London; and T. RUPERT JONES, F.G.S., Professor of Geology and Mineralogy, Royal Military College, Sandhurst. First series. London: John Van Voorst, Paternoster-row.

PRINCIPLES OF MECHANISM.

There is, probably, nothing of greater value to the practical man, no matter what branch of industry he may be connected with, than a sound knowledge of the principles of mechanism, since it will assist him to avoid the construction of machinery which is unnecessarily wasteful of power if he be a manufacturer, and to select the machinery best suited to his requirements. The volume in which this subject is treated of by Professor WILLIS,* and the second edition of which has just been published, will enable such knowledge to be readily acquired, as from the character of the book all unnecessary reading will be avoided. Employing the term mechanism, as applying to combinations of machinery solely, when considered as governing the relations of motion, Prof. Willis remarks that machinery, as a modifier of force, has, in the science of mechanics, occupied the attention of nearly every mathematician of eminence who has arisen in the world, but by some strange chance very few have attempted to give a scientific form to the attractive and valuable results of mechanism; for it cannot be said that the few and simple machines which form the examples in books of mechanics are to be regarded as even forming a foundation for the principles upon which is to be based a science that will enable us either to reduce the movements and actions of a complex machine to system, or to give answers to the questions that naturally arise upon considering such engines.

By avoiding the consideration of the more abstract idea of motion, and confining himself to machinery alone, Prof. Willis has been enabled to deal with the subject in a manner that will be readily understood by all students of moderate ability, although they may possess but a very small amount of mathematical knowledge to assist them. Instead of considering a machine to be an instrument by means of which we may change the direction and velocity of a given motion, he has treated it as an instrument by means of which we may produce any relations of motion between two pieces. The advantage of the change is obvious. His classification, again, commands the utmost commendation, since it leads the student to consider motions as similar which really are so, without referring them to a particular type, a practice which permits many comparatively good mechanicians to be deceived upon inspection of a piece of mechanism, because they cannot instantly refer it to one or other of the types they are accustomed, without knowing it perhaps, to consider as a standard. The first ground of his classification, he explains, and the one by means of which the calculation of the law of communication of the velocities and directions is effected, is the mode in which the motion is transmitted. These modes he has divided into rolling and sliding contact, linkwork, wrapping connection, and reduplication. The relative motions produced by each of these methods, he remarks, will be found to be governed by a different geometrical principle, and every possible mode of communication may be placed under one or other of these divisions. Many combinations, however, derive their principle of action from a mixture of two or more of these methods of communication. In this case their place in the system is always determined by that method which has the greatest influence; besides which, each combination is reduced to its equivalent simple form, and its position determined by that alone; for the object of the system is to reduce the motions to calculation, and for this purpose the equivalent simple form of every combination must be employed.

In Prof. Willis's book an admirable introduction is followed by a chapter on trains of mechanism generally, by which means the reader is prepared for the complete and systematic treatment of the subject. The remaining portion of the first part is devoted to the consideration of elementary combinations, embracing the various conversions, directional relation, and velocity ratio. Thus, rolling contact is considered according as the directional relation and velocity ratio are both constant, one variable, or both changed; and sliding contact, wrapping connectors, and link work are treated in the same way; whilst in the chapter on reduplication he deals with all questions relating to pulleys in a manner which leaves little to be desired. Aggregate combinations, adjustments, combinations for the action of which properties of friction are employed from the second, third, and fourth parts respectively; the volume closing with a very valuable account of universal joints, including their history and applications, constructional forms and theory, and universal flexure joints and swivel joints, not the least interesting item being the concluding explanation of the mechanics of the front claw of a common crab.

Throughout the volume Prof. Willis has evidently used the utmost care to treat the subject in an exhaustive manner, and to employ a style of writing which shall leave the reader no doubt as to his meaning; so that whether the knowledge be required for enabling the student to pass an examination at a university, or to fit him for his profession in his subsequent career as an engineer, he will find Prof. Willis's book an invaluable aid.

* "Principles of Mechanism, Designed for the Use of Students in the Universities, and for Engineering Students Generally." By ROBERT WILLIS, M.A., F.R.S., &c. Second edition. London: Longmans, Green, and Co.

FOREIGN MINING AND METALLURGY.

A reduction in the duties imposed by Russia on certain articles imported into her territories has led to a great increase in the imports. Thus, iron in bars, rolled iron, and rails were imported last year to the extent of 14,444,216 pouds, as compared with 6,798,332 pouds in 1868. Armour-plates, boiler-plates, &c., were imported in 1869 to the extent of 772,786 pouds, as compared with 423,376 pouds in 1868; sheets to the extent of 105,648 pouds, as compared with 91,537 pouds in 1868; zinc in blocks to the extent of 80,207 pouds, as compared with 76,595 pouds in 1868; zinc in sheets to the extent of 24,390 pouds, as compared with 11,043 pouds in 1868; works in copper or brass, 18,455 pouds, as compared with 12,208 pouds in 1868; works in forged iron, 4,051,459 pouds, as compared with 2,287,087 pouds in 1868; works in unpolished iron and steel, 39,076 pouds, as compared with 14,983 pouds in 1868; works in polished iron and steel, 2828 pouds, as compared with 1441 pouds in 1868, &c.

The Belgian coal trade has displayed rather more briskness during the last few days as regards some descriptions, more particularly coal for domestic consumption. The interruption of communications with France still precludes any deliveries to that country, although coal is more and more wanted by the French. Advices from Rheims, for instance, state that in consequence of the deficient supplies of combustible, 10,000 workmen will shortly find themselves unemployed. As some compensation for the sad state of affairs prevailing in France, Belgium is sending rather considerable quantities of coal just now into Germany and Holland. In the first-named country, as was recently stated, labour makes default, and the extraction is in consequence much reduced.

As regards the Belgian iron trade, it must be confessed that new orders do not arrive, and the time seems near at hand when industrials must accumulate heavy stocks if they do not wish to impose too heavy sacrifices on their workpeople. Already a certain number of works are working for the future—that is, producing without any definite orders to absorb their production. Negociations are pending between the Belgian Department of Public Works and Belgian makers of railway plant on the subject of long-talked-of contracts. Nothing positive seems, however, to have been yet decided on. The Sclessin Blast-Furnaces, Ironworks, and Collieries Company have been paying this month a dividend of 5s. per share. The dividend of the Ougrée Collieries and Blast-Furnaces Company for 1869-70 has been fixed at 17s. 6d. per share.

The Austro-Belgian Metallurgical Company has held its meeting for 1869-70. The report presented stated that the price of zinc and lead has continued to decline, while the difficulty of procuring supplies of minerals has increased. This has caused a rather difficult state of things for the company. Its Belgian mines have been a source of continual loss to it, but the Ivanec Mines, in Austria, have left a profit this year. The company's financial service cost it last year 2431*l.*, and a sum of 1808*l.* was set apart for depreciation of premises and plant. A profit of 5100*l.* remained for the year; this in ordinary times would have allowed a dividend to be paid at the rate of 12s. per share, and a balance of 300*l.* would still have remained over. But having regard to all the circumstances, the meeting resolved, by 143 votes against 117, to adjourn the payment of any dividend. This course was taken to enable the company to bear up more effectively against the difficulties of its financial service. The Kocheux and Oneux Company appears to have realised last year a profit of 5691*l.*; this sum was completely absorbed by interests, exchange, discounts, rents, premiums on obligations, depreciation of machines, plant, &c. No dividend can, then, be distributed for 1869-70.

Advices from Havre report the sale of some small lots of Chilian copper in bars at 64*l.* 10s. per ton, Paris conditions. About 10 tons have been dealt in upon these terms. Marseilles advices quote Toka at 80*l.*; Spanish at 68*l.*; Chilian and Peruvian at 78*l.*; rolled red copper in sheets at 80*l.*; and round red ditto at 82*l.* per ton. On the German market affairs are rather quiet. The railways now carry goods in only an irregular manner, and in consequence of this several works have been reduced to compulsory idleness. It is feared, also, that some of the navigations have been closed in consequence of the rigour of the season. As a general rule, transactions have been maintained at present; but if arrivals continue to be checked as they are now, business may be considerably reduced and restricted. The Berlin market has been quiet. At Rotterdam prices have not varied. The German tin markets have presented little animation, and the advices which come to hand from the various centres do not show a very favourable tendency; but there is little doubt that the movement which has occurred on the London and Dutch markets will soon make its influence felt in Germany. At Rotterdam some rather important transactions have taken place in copper at advancing rates. The market for disposable Banca has been very firm at 75¼ fl. Banca to be delivered in March and April has followed the course of disposable, and is quoted at 74 fl. to 74½ fl. In Billiton there has been no affair to notice. Disposable is held at 74½ fl. to 75 fl.—terms which are paid very reluctantly. There is nothing striking to report with regard to lead. Zinc has presented no change upon the German markets, upon which business has been restricted by the war.

We have already mentioned the dividend about to be paid by the Ougrée Collieries and Blast-Furnace Company. We may add that the report presented by the directors shows that the company has not suffered much at present from the war prevailing between Germany and France. The company's production and sales have been carried on upon the same conditions as hitherto; the progress of the collieries continues to be regular, and the working of the mineral bearings has been developed by the acquisition of some new deposits; finally, some new coke furnaces have been constructed. The quantity of coal raised by the company in 1869-70, was 74,122 tons, against 74,545 tons in 1868-9. The quantity of coke manufactured in 1869-70 was 39,729 tons, against 42,712 tons in 1868-9. The quantity of mineral worked in 1869-70 was 77,940 tons, against 61,778 tons in 1868-9. The quantity of minerals purchased in 1869-70 was 20,989 tons, against 35,020 tons in 1868-9. The quantity of pig produced in 1869-70 was 30,448 tons, against 32,813 tons in 1868-9. The quantity of iron made in 1869-70 was 7970 tons, against 6158 tons in 1868-9. The total rough profit of the past year was 38,909*l.*

THE THORNHILL REEF GOLD MINE—(Extracted from the "Tarrangower Times.")—Scarcely one Maldon miner out of a score, if asked, would know the whereabouts of this reef, but nearly all would do so if asked for Brittingham's claim. Last week we paid a visit to the claim and to its regions below, and purpose giving the result of our inspection and enquiries. The reef is situated west of Green Valley, Muckleford, and crosses the rich alluvial gulley known as "San Pit," from which in former days splendid returns resulted to the "pick and cradle man." The reef is named after its discoverer, Mr. Thornhill, who unfortunately lost his life in the first shaft put down, by incautiously putting faith in a bad windlass. The men in his employ had complained that it was insecure, and in order to assure them of its trustworthiness the master had himself lowered, which was accomplished in safety; but on the ascent the handle gave way, and Thornhill went to the bottom, and was killed by the heavy windlass rim striking him on the temple. Messrs. Brittingham and Sons, who were working the next claim north, holding 120 ft., and doing remarkably well, succeeded in becoming the purchasers of the Thornhill's claim; and the bye-laws having been liberalised they were enabled to hold the 240 ft., and as the lengths of quartz allowed were again extended, they made another purchase of the claim on the north, and this made up the 320 ft. claim for so long known as Brittingham's. The first shaft, known as Thornhill's, was put down on the very cap of the reef, and every stone taken out from the grass to the present working level has been crushed and paid handsomely, as much as 22½ ozs. of gold having been taken from 1 ton, and the lowest average being 1½ oz. As the claim south, now known as the "Union Claim," has been worked up to its northern boundary, and 30 ft. deeper than the lowest working level of Brittingham's, and the deeper the reef the better the stone, the fact forms one among the many cheering prospects for the latter. The east face of the reef is of good workable slate, a sufficient width of which is taken out, and the stuils loaded therewith, and then about 3 ft. 6 in. of the east face of the reef blasted out. The whole of this is crushed, and yields something over 1 oz. of gold to the ton. The stone looks, as the miners have it, "kindly," and is quite evenly striped with the horizontal seams of black schist, full of pyrites, in which the gold is very often plainly discernible. Such stone would gladden the eyes and heart of a nuggetty reefer, as experience would tell him to look for large returns. It may be worthy of remark, *par parenthese*, that by reference to the mining map of the district, issued from the Mining Department, and showing the bearing of every reef, it will be seen that this reef and nuggetty reef are exactly in the same course—without the slightest deviation—and that these two form the only instance of such exactness. The width of the Golden Reef taken is, as we have said, 3 feet 6 inches, which leaves bare poorer, or hungrier-looking, quartz; the west face has not been broken into, as the owners of the claim are so well satisfied to work the known good part that they have not yet thought it worth while to see what the west backs are worth. We now descend 40 feet further, and stop to examine a curious feature—to this depth the whole of the quartz taken from the shaft has been crushed, and paid well, and the reef has not changed its appearance, its course, or its dip in the slightest; but here another reef of a totally different character cuts in, the stone being whiter, having nothing of

schist, and little of pyrites in its composition, and its underlie being of a more obtuse angle. It was broken into a little distance north, and proved to be gold-bearing, but the proprietors determined to push down with their shaft, and consequently sunk in this reef, which continued for 30 feet, and then considerately made way for its predecessor, which came in again, with its old course, its old angle, its old seams, and its old good show of gold. The stone taken out in the sinking has been crushed, and produced the same excellent yield, and at the deepest part the reef is stronger and better looking than ever. Were the levels worked simultaneously, and men employed night and day, as in other mines, the claim would, indeed, prove a mine of wealth to its fortunate owners. For some time the crushing was done by means of a small engine, but when the difficulties of the Grand Junction Association caused the sale of its plant, Messrs. Brittingham purchased a splendid engine, of 24-horse power, with gear, &c., complete. The amount of rich ground already proved will take some years to work out, and there can be hardly any doubt but that further judicious prospecting will develope an almost inexhaustible source of riches. —[Since the above was written, the length of the claim has been increased on Thornhill Reef to about 1600 feet in length.]

Original Correspondence.

NORTH ROSKEAR MINE.

SIR,—I am rather surprised to see the letter in last week's Journal, as what is there stated is not in accordance with the facts. There were only three shareholders present at the meeting, independent of the gentleman who holds more than one-half of the mine, and the officials of the company. The propositions had been deposited at the office of the company for more than a week previous to the meeting, and due notice had been given to carry them into effect. The proposer of the resolutions would have to come to the meeting fully prepared to have carried out his intentions had not the Chairman of the meeting and the secretary of the company previously offered to second all the propositions referred to. I merely mention these facts to correct any wrong impression that distant shareholders may have formed. THOMAS PRYOR.

Redruth, Dec. 15.

[ADVERTISEMENT.]

THE QUEEN, THE KING, AND THE VIRTUOUS LADY.

SIR,—I hardly know whether to be annoyed or amused, but can scarcely refrain from inclining to the latter. A gentleman of capital has lately paid me and my mines, and Tamar House, a visit, acting upon my advice to "come, see, and judge for yourselves;" and he candidly informs me that before making our acquaintance he asked the opinions of several London brokers respecting my mines and your humble servant. The replies were almost unanimously that I was believed to be either a rogue or a fool, led up rapidly by some expression or other tantamount to the mines following suit. I bow for myself and royal partners to this untutored compliment; and have only to remark, for the edification of my distant admirers, that it is, perhaps, fortunate for them "I am not my brother's keeper," or I might retaliate with such vengeance as to annihilate some of their little schemes which I KNOW to be bubbles. There is at least one slight difference between some of the London brokers and myself—they believe me to be either a rogue or a fool: perhaps, indeed, "where ignorance is bliss 'tis folly to be wise." I regret to say it, but in justice must, that I KNOW them to be the unhappy, miserable combinations of both; however, like the editor of the *Globe*, good has again come out of intended evil. My visitor has invested, or sown his hundreds to reap his thousands. I always thought that London brokers were sharp-witted men, but again I have the laugh. Why not cease your useless efforts to materially harm me? It pains me to see you kicking against the pricks, and I assure you seriously that you may as well endeavour to remove a mountain as shake my faith in the grand success of English mining if only properly conducted. If you have no confidence, why not shut up your offices, and go on the other tack as honest men, and clear your consciences by proclaiming to the world that you believe mining in England to be an utter failure, a waste of money, a swindle, a folly, a fable? Ah! where is the rogue now, and where the fool? Gird up your loins like sensible men, and if you are determined not to put up your shutters go in zealously for the grand cause and honourable pursuit of English mining; however, I beg of you in future to be wary how you stab at me in the dark. We are told that even that docile specimen of natural history—or physical geography, which is it?—the worm, will turn when trodden upon. Take the hint, as I am conceited enough to believe that I could, if I chose, give some of you such a bitter pill that would be found very difficult of digestion.

I have this week received tenders from different smelting firms for the Queen silver ores; the offers vary but very little, but that of Messrs. Sims, Willyams, Nevill, and Co., is the highest—

No. 1, 12 cwts.	£355	0	0	per ton
No. 2, 4 tons	43	8	0	"

The highest tender for the coppery mundic is—

No. 1, 18 tons	£3	0	0	per ton
No. 2, 60 tons	1	0	6	"

And we are already preparing fresh parcels of both silver and copper for the buyers. Let us get the engine to work, and if I do not put an end to your sneering, and make some of your mouths water, it will not be my own fault. If this Queen Mine were in the hands of brokers the shares would be up to 10*l.*, and London streets would hardly be wide enough for those who had the distinguished honour of representing it. However, have a little patience, do not be so clamorous; the world was not made in a day; give me time, and my mines shall be on the market. Mines that will reflect honour upon you, and the three I now cater for are not the only prizes in England. I have a pick of one hundred different properties, therefore the public may rely upon whatever I bring before the world having good sound prospects, if not certainties of success, as I have every means of obtaining the very best advice; and depend upon it that I intend to, and shall, bring out success after success.

Your readers will find the reports of the mines under the Mining Correspondence, but the report of Capt. George Rowe upon the Virtuous Lady please attach to this letter. I promised it as soon as received, good, bad, or indifferent, and keep my word, as you have a little of each, the former predominating.

Tamar House, near Tavistock, Dec. 15. THOS. J. BARNARD.

Gawton Copper Mines, Tavistock, Dec. 7.—In accordance with your instructions, I have carefully surveyed this property, the result of which may be described as follows, including the "old mine," so profitably explored by former adventurers for copper, and the eastern part, now worked by the present company for tin. It may not be out of place, first, to observe that this mining property represents a distance of two miles in length from east to west on the lineal line of the lodes—consequently, it embraces such an extensive run of mineral ground as rarely exists in one mining sett; in fact, I know of but one similar instance in the whole of this locality, which is the Devon Great Consols. It is bounded on the east by the River Walkham. On the west side of the river the south lode embraces the mountain, some 60 fms. high, where excavations are made on the course of the lode from surface, 50 fms. long, with a corresponding height, and 14 fms. deep below the level of the valley. The bottom part is now full of water, so it cannot be surveyed; but, judging from information I obtained from, I think, reliable authority, there still remains a vast deposit of rich quality tin ground to be worked upon with good profits, and should not remain idle a day. To obtain these gratifying results a powerful water-wheel, 8 ft. breast, has been erected, to which a set of 6 heads of stamps is in course of being attached; the remaining power will be applied in draining the mine and drawing the stuff, with an abundant supply of water through all seasons of the year, affording every needful facility for working the mines most economically, with a very limited amount of capital judiciously employed in thoroughly conducting the future operations, which will partly consist in opening upon the lodes further west in the same direction. There are three known cross-courses, all within about 100 fms. from the breast of ground in the old workings, one of which is very large, producing lead, and worked extensively for that mineral some short distance to the north, adjoining the large elvan course, which is parallel to the east and west lodes, in addition to the north and south—in fact, all the tin and copper lodes within the limits of the sett both north and south will be intersected by this powerful cross-course, a point of interest which has hitherto been neglected; but these are important features, which are particularly noticed by practical miners. Some short distance to the north the middle lode is laid open in the same manner as described in the former, all worked away open from the surface, nearly 30 fms. long, and a corresponding depth, where the lode in the breast of ground is yielding some good work for tin, which may be regarded as an auxiliary to the former workings, when properly developed. This lode can also be traced to the point of intersection of the great cross-course, where good results may be expected. Some short distance further in this direction is the north lode, which has been noticed by the ancients, particularly near the summit of the hill, on which a shallow adit is being driven some 10 fms. west, where several tons of good tinstone has been broken near the surface, but the present point of drivage is unproductive, and the lode small; nevertheless, there still remains a greater chance of success in approaching the before-mentioned cross-course. This brings my remarks on the most prominent points deserving present attention in the eastern part of the mine to a close, excepting that the greatest energy should be displayed in setting the engine-wheel to work, and forking the water in the deepest part of the mine, where immediate operations should be vigorously pursued, and the stamping-mills also in motion, preparing the product for the market. It is difficult and uncertain to describe at the present stage the exact amount of cost required to provide for all requirements, in laying out floors and erecting needful machinery for properly cleaning and returning the tin which may be obtained from the mine very shortly after water is pumped out; nevertheless, it will be comparatively small at first if economy is regarded, but as the workings are found to advance, and the quantities of tin increase, a corresponding amount of space and appliances will be required in accordance with the increase of ores, which will be a very desirable application in furnishing the mine with all needful machinery to return large quantities of tin, of which there can be no reasonable doubt.

I now retreated to the western mine, and entered the subterranean caverns of the Virtuous Lady, which have been worked to an enormous extent for 80 fms. long, and, in some places, 10 to 15 fms. wide, in flats and floors, going in an east and west direction, where thousands of tons of rich quality ore have been extracted by the former workers, and, without doubt, thousands of tons more still remain to be obtained by the present workers, which will ultimately add this celebrated old mine once more to the Dividend-List, only by dint of energy and perseverance in the right direction, which is more than likely to be realised by extending the operations east, west, and south, as convenience may admit and require; at the same time continue the drivage east at the adit level on the south lode, which was driven some considerable distance by the former workers, and has been resumed by the present, extending altogether into the hill about 40 fms. on the course of the lode, which is principally of a promising character, but of no value until coming within the last 4 or 5 fms. of this drivage, where the lode became large, exceeding the width of the level, and at the present end is fully 8 ft. wide, of a most promising description, composed of very strong gossan, rich quality black and yellow copper ore, intermixed with mundic and capel—altogether a very fine-looking lode, and easy ground, such as is likely alone to produce sufficient returns to meet the greatest part of cost in developing this part of the mine. The continuation of the cross-cut south, to intersect the caunter and other lodes in that direction, is a point of interest which deserves attention, and may be conducted in accordance with future requirements as the development of this particular point is found to progress. I have carefully looked over the whole as it now stands before me in connection with this property for both tin and copper, and confidently believe that a very limited amount of capital judiciously employed will be sufficient to place this mining property in a paying and profitable position.—GEORGE ROWE.

[For remainder of Original Correspondence see this day's Supplement.]

Meetings of Mining Companies.

THE MINING ASSOCIATION.

The third annual general meeting of shareholders was held at the offices, Austinfriars, on Thursday,

Mr. J. W. WILLIAMSON in the chair.

The report of the directors regretted that the balance-sheet now presented showed so unfavourably in comparison with former accounts, but the shareholders will, doubtless, be prepared for this result in consequence of the depreciation in the shares of the Australian United Company, in which this association is so largely interested. The directors, however, believe and trust that this depression in value is only temporary. The advices lately received from the colony respecting the mines on the same reef, and within a few yards of the Duke of Cornwall Mine (one of the properties of the Australian United Company), show that they continue fully as prosperous as ever, while the workings at the latter are reaching that point where success first commenced in the other mines. At the Central Mine (which is alluvial) the main lead was believed to be just reached at the date of the last despatches. The Australian United Company having, in the first instance, under-estimated the amount of capital required for the working of their two mines—including the purchase, sending out, and erection of the powerful and efficient machinery—are now raising a further amount, upon terms which it is believed will be most advantageous to the subscribers—at 10s. for fully paid-up shares of 2*l.* 10s. each. This association having, as already stated, a large number of shares upon which the sum of 2*l.* 10s. has been paid, some of the principal shareholders have suggested to the directors the desirability of the association subscribing for some of these new shares, thus materially reducing the average price of the investment in that undertaking. Should this view be adopted a small call would be necessary, but the directors prefer to leave this question for the consideration of the shareholders. With a view to giving the fullest explanation to the shareholders, the directors send herewith a copy of the prospectus now being issued by the Australian United Company, in which will be found extracts from the latest information received in this country. The directors have more satisfaction in referring to another undertaking (in this country) in which this association holds a considerable interest, inasmuch as it has been progressively improving for some time past, and the manager states that the prospects never looked better than at present.

The CHAIRMAN said that, while the present meeting had been convened conformably with the Articles of Association, the most material object to be attained was to consult with the shareholders as to the most advisable course to adopt in the present position of the company. He was pleased to inform them that there were no debts, and that he considered the company was in a sound position. But there was one point upon which the board wished to consult the proprietors, and that was in reference to the Australian United Mining Company. They were aware that they held a considerable stake in that company, and, therefore, it was obviously their interest to assist them in affording the means whereby to carry that enterprise to a successful issue. The fact was that the Australian United Company had, rightly or wrongly, tried to work two mines with capital that should have been limited to one. In times like the present the directors of the Australian United Company felt that it would be useless to attempt to raise additional capital, unless most advantageous terms were offered; and among those who were eligible to participate was the Mining Association, who had been offered their proportion of the allotment. The directors, however, were not in a position to accept the offer without the assistance of the shareholders. The question now to be considered was whether it would not be prudent to accept the offer, the result of which would be to considerably reduce the average price of their holding in the Australian Company, inasmuch as the shares now offered would come to them at 10s., fully paid 2½*l.*, a large proportion of the present holding having cost them 2*l.* 10s. The reports received from the mines were as favourable as they ever had been, and when they recollected that the manager (Mr. Kitto) and one of the directors, who was also in Australia, had advanced something like 5000*l.* towards working the mines, without, as far as he knew, the shadow of security, they must all agree that was a very good test of their opinion as to the ultimate value of the property. If the shareholders in the Mining Association agreed to take up their proportion of these preference shares it would be necessary to make a small call, inasmuch as, in the opinion of the directors, it would not be advisable to realise any of the securities they now held at the present low prices. The bulk of those securities, irrespective of the Australian, was in Welsh mines; the report from the chief one was of a most encouraging character. Personally he was prepared to subscribe for these shares, but the directors were desirous that the matter should be agreed to by the shareholders as a body. He then moved that the report and balance-sheet should be received and adopted.

Mr. S. W. DAUKES seconded the proposition. The only difficulty in which the Association was placed arose from the insufficiency of the capital to develope the mines of the company, in which they were so largely interested, which they firmly believed would ultimately yield large profits. The difficulties of the Australian United Company arose from a considerable expenditure in both mines from untoward circumstances, which no one could have anticipated or averted. All those difficulties had now been overcome. The Duke of Cornwall Mine had been sunk 60 feet below the flookan, at which point, in the adjoining mine, the reef was very productive, the yield having increased from 15 dwts. to 1½ oz. of gold per ton. They were now driving upon that very lode, and at a distance of only 60 feet from where it was so productive in the adjoining property. As to the Central Mine, which was in the alluvial, the prospects were most favourable, the indications being that they were now on the top of a deep gully, which they had been searching for during the last two months; so that, although the Australian Company needed more capital, the grounds for believing that a successful result would be realised were, probably, more substantial than at any previous period. These were facts which should not be lost sight of by the shareholders in the Mining Association.

Some discussion ensued, which resulted in the adjournment of the meeting for one month, during which it was understood the directors would consult with some of the largest shareholders as to the position and prospects of the company.

A vote of thanks to the Chairman terminated the proceedings.

WHEAL IDA MINING COMPANY.

A general meeting of shareholders was held at the offices, Poultry on Tuesday, Mr. H. G. SHARP in the chair.

The notice convening the meeting having been read, the minutes of the last were confirmed. A statement of accounts was submitted for the four months ending with the costs for October, which showed a credit balance of 24*l.* 10s. 3d.

The report of the manager was read, as follows:—

Dec. 12.—At your last meeting, held on the mine, we proposed to open a cross-cut from the 40 fm. level east to cut a new lead lode, which we had just discovered by costeaning, and which we found run near the old workings. Since that we have been pushing on this cross-cut, by a full pare of men, towards this object. We had hoped by this time to have cut this lode, but the ground has proved harder than we expected, consequently we are not up to it, but in the last few feet of driving we have a great change in the ground for the better, with an increase of water, which I expect is coming from the lode; the change in the ground indicates being near the lode, which I am now expecting to cut almost daily, although we may be 1 or 2 fms. off from it yet, as much will depend on the underlie the lode will take. I expect it will be east; all the lead-bearing lodes in the district underlie in that direction. As I said in my last report, this is a good depth for lead, and the ground is very congenial for producing lead. The lode we are going to cut has never been seen below the surface, therefore it is a very important point for the mine, which will come off soon, and if cut good, of which I have great hopes, it will considerably enhance the value of the property, in fact, make a new mine of it, as we could soon get deeper levels to it from the shaft. And only from about our present depth the adjoining mines—Trelawny, Mary Ann, Ludcot, and Wheal Wrey—pay good dividends. The machinery and pitwork are all in good order, and working well.—WILLIAM TAYLOR.

The CHAIRMAN moved that the report be received and entered on the minutes, and that the accounts be passed and allowed. All he need say, in addition to the information therein communicated, that the manager was present to reply to any questions shareholders might desire to put.

A SHAREHOLDER said that he recently visited the mine, and was perfectly satisfied with the progress making, and equally so with the prospects presented. Everything appeared to be progressing most satisfactorily.

Capt. TAYLOR said that the present expenses were entirely confined to the development of the new lode. It had never yet been seen in this mine, but, judging from the altered character of the ground as the lode was approached, there was in his opinion good grounds for believing it would be cut good, in which case the value of the property would be considerably enhanced. They had a good lode in the upper levels, although they were not yet finding ore in sufficient quantities to pay. It is impossible to say whether it would prove to be the Mary Ann lode or that in the Ludcot or Wrey Consols.

The SECRETARY asked whether the present operations could be advantageously expedited?—Capt. TAYLOR replied in the negative, stating that they could do nothing more for the present than drive the cross-cuts. The 40 was a good depth to cut the lode, because the mines in the district had paid most of their profits from shallow levels. Should the lode be cut good at that point a valuable mine would be quickly opened up. The mine was being worked in the most economical manner, and the costs were light.

After some further discussion, the report was ordered to be entered on the minutes, and the accounts were passed and allowed.

A call of 1s. 6d. per share was made. A vote of thanks was passed to the Chairman, which terminated the proceedings.

GREAT CARADON MINING COMPANY.

A general meeting of shareholders was held at the offices, Poultry, on Tuesday, Mr. W. BANTON in the chair.

Mr. GRANVILLE SHARP (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed. A statement of accounts was submitted, which showed a credit balance of 167*l.* 7s. 5d.

The report of the manager was read, as follows;—

Dec. 12.—About the time of the last four-monthly meeting, held on the mine, we had got the shaft down sufficiently deep below the 80 to fix penthouse, &c., at that point for the better drawing away of the stuff; this work we have completed, also cut ground, put in bearers and cistern, and fixed a standing-lift at this level, which alone will very much facilitate the progress in sinking, as the pitwork became long, heavy, and troublesome to manage from the 70 down to the bottom. We are now in good course of sinking by as many men as can possibly get to work with economy, but, as you are aware, the progress hitherto has been slow, owing chiefly to the hard floor of ground dipping through the shaft, and which we have found very much thicker than we ever expected, but I am now pleased to say that the ground is gradually changing, going out just as it came in on the top; I have, therefore, every reason to hope that we shall be soon through it, and making good progress with sinking. We are confining operations entirely to deeping the mine by sinking the shaft, as we are fully persuaded that depth only is required to make the mine productive. Our great object, as I have before reported, is to reach the 90; at this point we expect the junction of the south lode with the rich caunter lode of the Caradon Mine. On this lode we have opened for some considerable length in our 70 fm. level, which has a very fine appearance, showing a wonderful improvement compared with the shallow levels, and such as fully warrant us in believing we shall find it productive at this deeper level, especially in conjunction with the south lode, which was the best looking lode when seen in the shallow level (40). The machinery and pitwork are all in good order, and working well.—WILLIAM TAYLOR.

The CHAIRMAN said that the report and statement of accounts just submitted really contained everything the executive had to convey to the shareholders. They had seen that the mine was being vigorously developed, and judging from the tenor of the report the prospects were encouraging.

Capt. TAYLOR, in reply to questions from different shareholders, stated that the shaft was being sunk with every dispatch, and the mine developed with as much vigour as circumstances will admit. As many men were employed as could be conveniently or advantageously engaged. It was an important fact, and one which shareholders should not lose sight of, that the lode for which they were sinking was a continuation of the well-known caunter lode in South Caradon. The manager of South Caradon had acknowledged that to be the fact.

The CHAIRMAN asked if any advantage could be derived by setting longer contracts, and thus expedite the sinking of the shaft?—Capt. TAYLOR said that as they were likely soon to get into better ground longer contracts might prove of more advantage to the men than to the shareholders.

The report was ordered to be entered on the minutes, and the accounts were passed and allowed.

A call of 2s. 6d. per share was then made.

A vote of thanks to the Chairman terminated the proceedings.

EAST TERRAS MINING COMPANY.

At a meeting of the East Terras Mining Company (Limited), held at the Salisbury Hotel, Fleet-street, on Thursday,—Capt. WHITE in the chair—it was resolved that the lease of the property to the company be accepted on the terms proposed to the meeting. That the draft lease be approved, and that the secretary be empowered to send a cheque for the charges to Mr. Pease, the steward of the Hon. G. M. Fortescue, so that working may be commenced immediately. That the reports of Mr. G. Henwood, F.G.S., Mr. Symons, and Capt. Edwards be inserted in the prospectus of the company. That Capt. Edwards be appointed captain of the mine, who is hereby authorised to select a sub-agent. That the offices of the company be at 225, Gresham House, Old Broad-street, and that Mr. Spargo, of that place, be appointed the London manager, to whom all communications are to be addressed. That the prospectus be forthwith issued to the public, with the reports appended, and that it be inserted in the *Mining Journal*, and such other papers as the directors may approve and direct. That monthly reports of the state of the works and prospects be inserted in the *Mining Journal* for the information of the shareholders.

The company dined together after the business was concluded, when the customary toasts were given and speeches made.—The CHAIRMAN said that it afforded him great pleasure to occupy the chair on an occasion which promised to be so auspicious. He had hitherto, though frequently pressed, avoided the association with mining matters; but as in this case he felt morally persuaded that the undertaking would at the onset prove to be a profitable investment, and backed by the opinion of gentlemen of such great intelligence in mining affairs, he could not hesitate to accept the honour to which the company had unanimously elected him. With these brief remarks, and in the hope of evoking practical observations of the gentlemen present, he would call on Mr. Spargo to address the meeting.

Mr. SPARGO said that he entered into this undertaking with a full conviction that the property upon with they had been conferring contained the elements of success. He knew the district well, as also the majority of the mines in Cornwall. The setts in the St. Stephen's district had been very imperfectly developed, the deepest mine not much exceeding 20 fms. The district is highly metalliferous, particularly for tin, bing traversed by lodes, elvans, and cross-courses, analogous to the mines in the Carnmarth and Carn Brea localities, and, as far as indications presented themselves, he had not the least doubt that a proper development of the lodes would lead to the opening up of great and lasting mines. As there is a gentleman present who is more conversant with mining matters in general, and with East Terras in particular, than any other person known in the county of Cornwall, he would call on him to state to the meeting his opinion on this mine. He referred to Mr. G. Henwood, F.G.S., who had been over a large portion of the world, and inspected, he believed, more mines than any man alive. He had brought *intelligence* to bear on mining, and had both informed and amused thousands. He begged to propose his health. (Hear.)

Mr. HENWOOD said, that it gave him great pleasure to find his old advice being adopted in many districts. He had been a practical miner from his boyhood, and he rejoiced to say it appeared to be the "nature of the beast," for his father had been a miner before him, practising the avocation in the Camborne, Penzance, and Lizard districts, and had been an adventurer in many mines; now two of his own sons became also practical miners, who knew how to use the hammer either hand before, and were now ornaments to the profession. One in the West Indies, a fellow-workman of Captain Edwards, and the other in the East Indies, late a pupil of the renowned Capt. Ennor, both of whom had made prosperous mines for their adventures. For himself, he could justly say that he had spent a lifetime in mining studies; in fact, he might say with the poet—

"All my best days, the morning of my life,
Have been devoted to the service."

True he had written a vast number of reports on mines, and had been a communicant of the *Mining Journal* for more than twenty years, and had visited every recognised mining district in Great Britain and Ireland. He little expected on his return from explorations in India he could have been received with such warmth, and have met with such confidence as he had experienced, notwithstanding his magnificent discoveries of silver and other mines in that glorious clime, which his son now manages. He had peculiar right to rejoice this day, when such circumstances as this day's proceedings will be of infinite value to his old *prestige*—the New Terras. He trusted that that is becoming the centre of a *new-old* mining district. It would, like many other prototypes, be surrounded by a successful circle of juniors. Had anyone representing the Terras been present he would have proposed his health; but in his absence he would give success to their pioneer and exampler, the Great Terras, and all the young Terras, and would be happy to propose one of his old toasts, "Shallow mines and deep captains." (A laugh.)

The CHAIRMAN said he would propose the health of another gentleman present who had rendered good service to mining speculations by the publication of a series of highly useful maps, delineating the boundaries of setts, strike of lodes, cross-courses, elvan courses, &c., affording at one view the position and relative positions of mines in the various districts in Cornwall and Devon. He referred to Mr. R. Symons, of **Truro.**

Mr. SYMONS thanked the company for the compliment paid him, and expressed the pleasure he felt in being present at the inauguration of East Terras. He had applied for the grant under the advice of Capt. Edwards, who is a highly intelligent miner. He felt convinced that the undertaking upon which they had entered would be prosperous, and that the Terras Mine was the nucleus of a great tin district. As he had been in the habit of publishing maps of mining districts, he thought that ere long occasion would arise for a mining map to be entitled "A Map of the Terras Mining District, Cornwall." He was not addicted to intentional exaggeration in representing the character of mines, his practice being to speak of mines according to his apprehension of the facts of their condition. Several of the long-wrought districts being apparently nearly exhausted, it is very desirable to search after new ones, or districts comparatively slightly worked, where the prospects are good, and contain what is called "elements of success." Such is the Terras district. No mine in the locality has been worked extensively, all the workings being small, shallow, and very old. Now that an impetus, caused by the Terras discoveries, has set in, he had no doubt that the mines already known, and others that may be opened in the district, will be effectually developed to the advantage of those who employ their capital therein. He had been connected with mines nearly all his lifetime. He accompanied his father to Treloweth Smelting Company with 300*l.* worth of tin in 1816. He had not ventured far like many had, and that for a very good reason, remembering Dr. Franklin's couplet.

"Vessels large may venture more,
But little boats should keep near shore."

He had been an observer, and found that, as a rule, capital judiciously applied in mining on an average yielded a better return for investment than any other security, and those who have acted with due caution have generally been successful. *Indiscriminate* speculation should be avoided. In selecting East Terras as an investment the company have shown a wise choice, and he wished them early success. He concluded by proposing the health of Prof. White (hear, hear), whose scientific acquirements are usefully employed in a branch of science intimately connected with mining—that of metallic assays and general analysis.

The PROFESSOR said that his knowledge of practical geology was rather limited, but he flattered himself that he had, after many years' experience, especially in the stanniferous districts of Cornwall, acquired sufficient practice to distinguish between a probable success and a mere speculation. Upon this principle, after spending several days in the inspection of the Terras district, accompanied by parties of accredited experience, and making careful analyses of the ore from various points and levels of the district, he felt himself fully justified in congratulating the present owners of East Terras Mine upon the acquisition of ground which promised at an early date, with a display of skill, integrity, and capital, pecuniary results equal to those of any other mine in this highly metalliferous district. The Professor concluded a somewhat exhaustive speech by congratulating mining investors upon so favourable an opportunity of selecting a certain medium for the employment of capital at home, instead of uncertain speculations abroad.

Mr. RICHARDS begged to express the satisfaction he felt, as one of the shareholders in East Terras, at the prospects presented by the reports submitted to the meeting. He had no personal acquaintance with Capt. Edwards, who had spoken favourably of the mine, but he had known Mr. George Henwood for many years, and he knew him to be not merely a theoretical but a practical man, for in his youthful days (from choice, not necessity) he was an actual miner, and worked as such in Tresavean Mine. He believed, from the statements made by him, and others who had reported, that in East Terras they had a splendid property to develope, to the effectual development of which they must now address themselves in good earnest. As such a large proportion of the shares had been already subscribed for it appeared likely that the remainder of the 25,000 would be soon applied for; but operations, as resolved, should be commenced at once.

Mr. WILLIAMS, another shareholder, expressed similar views, and said that the 100 shares he had taken should be increased to 200 or 300 if necessary.

Mr. THOMPSON said that he was much pleased to find that so many shares were taken by the Cornish people, which was an indication that the mine was thought well of by those who lived near it. He begged to ask whether the lodes in the sett were the same as those in Terras Mine?

Mr. SPARGO said that the east and west lodes were the same as those in Terras

so that he had the more confidence in the mine on that account, although the character of the district would warrant confident expectations.

Mr. STEPHENS begged to enquire of the Chairman whether he felt sure that the capital of the company would be sufficient for the thorough exploration of the property, otherwise in a limited company a difficulty might arise?

The CHAIRMAN said that the calculations had been carefully prepared, and that no doubt whatever existed as to the sufficiency of the capital. He had no doubt that returns of tin would be made almost immediately. The capital was unquestionably ample.

Mr. THOMAS begged to propose the health of a shareholder who he was happy to see before him in such excellent health. He meant his old friend, Mr. Spargo, who had done a great deal in the mining field, and he hoped that he would do a great deal more. He came to London 17 years ago as a practical miner, which is more then most of the sharedealers can say in truth, whatever some of them pretend. Like himself, he was in early life an actual worker, and is, therefore, the better prepared to advise as to investments. (Hear).

Mr. SPARGO thanked his friend, Mr. Thomas, for the kind proposal, and the company for accepting it. He had certainly the advantage over some of his neighbours in respect of actual experience. He had been connected with mines all his lifetime (since his childhood), and intended to be so until the end of it. He had taken an interest in East Terras from a persuasion that it is a fair field for operation. He would certainly do his best to make it remunerative for the company.

A SHAREHOLDER, who was absent during the business time of the meeting, begged to ask the secretary how many shares were taken up?—The SECRETARY said that as no prospectus had been issued to the public the shares already subscribed for were taken in consequence of written applications; and the number taken is 8529. As the prospectus will appear in the Journal this week, it is expected that the remaining shares will be quickly applied for; but the works at the mine will not be delayed on account of any non-appropriation.

Mr. WILLIAMS said that it appeared to him that most of the lodes wrought in modern times were discovered by the "old men," who may be called the *pioneers* in mining; and it had been found that we cannot do better than pursue the lodes opened by them, as in Terras and most other mines. The shallowness of their works in most cases is to be attributed to the want of the means of discharging the water. Edward's lode, in Terras, is a case in point. Whenever you find old works extending from the surface to the adit level, you may infer that the old men had something valuable, and that there is something left worth following after.

The CHAIRMAN said that he had much pleasure in proposing the health of the representative of the press now present. (Hear).

The REPORTER said that meetings of this kind supplied news for the papers, and he attended, with permission, to report for the Journal with which he was connected; and he would take care that the proceedings of the meeting should be faithfully reflected. (Hear).

Mr. JAMES begged to propose a vote of thanks to the Chairman, and his good health. (Hear.)

The CHAIRMAN was much pleased with the state of affairs as regards the mine, and thanked them for the compliment.

GREAT WHEAL VOR UNITED MINING COMPANY.

The quarterly meeting of shareholders will be held on Wednesday. The profit and loss account for the three months ending September shows—

Mine cost		£3989	4	3	
Merchants' bills		1978	4	0	
Dues		305	7	4	
Sundries		243	4	2=	£6515 19 9
Black tin sold,	Sept. 10	£2248	11	4	
Ditto	Sept. 27	1347	19	7	
Ditto	Oct. 29	1532	2	10	
Sundries		170	5	1=	5298 18 10
Balance (loss)					£1217 0 11

The audited cash account, made up to NOV. 10, showed a cash balance of 1433*l.* 18s. 1d., including cash at bankers, petty cash, and bills receivable.

The ground sunk and driven during the three months was 47 fms. 5 in.

THE CASE OF ELIZABETH CORT,

WIDOW OF THE LATE RICHARD CORT.

The name of Cort is associated with, and is illustrious for, the inventions which are the foundation of the British iron manufacture.

The late Richard Cort was the son of Henry Cort, described in the *Times* of July 29, 1856, as the "Father and the founder of the British iron trade, and the 'Tubal Cain' of our century and country."

The way in which he was deprived of the fruits of his labours, by the malpractices of Government officials, and by which his family was left in penury, amidst the wealth which he had created for individuals and the nation at large, is matter of history.

The destitute condition of Richard Cort was represented to Lord Palmerston in 1856, and a pension of 100*l.* a year was granted to him, which ceased at his death. It was not continued to his widow, as, relying upon the specific promise of Lord Palmerston to that effect, it was expected it would have been. That widow, the daughter in-law of the late Henry Cort, is in her declining years absolutely destitute; she suffers from chronic bronchitis, rendering her residence in a purer atmosphere than that of the metropolis indispensable.

An appeal is made to all those producers and users of iron and steel, who have so largely profited by the inventions of Henry Cort, to provide, during the few remaining years of her life, those necessaries which, so far as may be practicable, will tend to alleviate the physical sufferings and state of destitution in which the widow of the late Richard Cort has been left.

This appeal, it is confidently hoped, will not be without good result, especially as the annual amount to be provided need not exceed 120*l.* or 150*l.*, a sum so insignificant as not to be felt by any one of those great manufacturers who have been enriched by the inventions of Henry Cort.

Donations or annual subscriptions are asked to be transmitted by cheques, made payable to "Charles Manby (Cort Fund)" or order, and crossed "Union Bank of London," where an account is opened for the "Cort Fund."

24, Great George-street, Westminster, November, 1870.

John Penn, Esq., Engineer, Greenwich	£100	0	0
Thomas Brassey, Esq. (the late), Railway Contractor ..	100	0	0

"POST OFFICE LONDON DIRECTORY."—We are again reminded of the near approach of another year by the receipt of the new edition of the "Post Office London Directory," in which we find the same unremitting efforts to secure accuracy as have been made in previous years. The fact of any work reaching its seventy-second annual edition might alone be accepted as ample evidence of its appreciation by the public, and the circumstance of numerous competitors having from time to time appeared, and quickly ceased to exist, is an excellent indication that the "Post Office London Directory is as nearly perfect as could be desired. The size of the volume (when it is considered that it merely contains the lists of the inhabitants of a single metropolis) is a marvel, the systematic arrangement is a marvel, and the greatest marvel is the extraordinary accuracy, the corrections throughout the 2385 pages being made to the end of the first week in December, although we receive the volume, beautifully printed and elegantly bound, almost before the end of the second week in the same month. Were these corrections confined to a single portion of the work it would be more easy to understand, but they extend throughout the volume. The death or replacement of a law officer, a member of Parliament, a peer, a Government clerk, or a private gentleman, provided it occur before Dec. 2 or 3, is noticed by the alteration of the law, parliamentary, court, city, or clerical portions of the Directory, as may be required, as well as in the official indexes and lists of Government offices. We have ever regarded the "Post Office London Directory" as an indispensable necessity in a place of business, and whilst the work remains as perfect as at present we think the same opinion must be entertained by all classes.

THE TEA TRADE.—An interesting little pamphlet—"A History of the Sale and Use of Tea in England"—has just been published by the Licensed Victuallers' Tea Association, which it will be recollected was brought into existence as a protest against Gland-tone's Act of 1860, enabling every shopkeeper to sell wines. Upon perusing the book, one is surprised to find how much that is amusing can be written about an article at present in such general use amongst us. It seems that tradition speaks of it as early as the third century, and the number of curious references made to it in the books and periodicals of this country for some time after its introduction—indeed, during the whole of the seventeenth century—are well worthy of perusal. Altogether, the pamphlet is as cheap a sixpence worth as could be desired, and will afford all classes of readers an ample fund of amusement and instruction.

INVESTMENTS AND SPECULATIONS.—A new pamphlet, containing a list of mines suitable for investment and speculation, with a view to realisation during 1871, has just been issued by Mr. CHARLES THOMAS, of Great St. Helen's. The lists include 13 dividend mines, which, from their regular payment of dividends and prospects of continuing to do so, are considered desirable investments; and nine progressive mines recommended as good speculations.

MINING IN CALIFORNIA.—All interested in mining operations in California should subscribe to the "Scientific Press," published weekly in San Francisco, price 21s. per annum, post free. Bates, Hendy, and Co., No. 4, Old Jewry, London, E.C., are appointed agents for the United Kingdom, and all applications respecting advertisements and subscriptions should be made to them.

CHALLENGE TO THE WORLD.—The *Bristol Daily Times and Mirror* Aug. 15th, has the following: Messrs. J. C. Swan and Co., of 16, Queen-square, in this city, have invented a pocket microscope, which is a marvel in all that such an instrument should be. It has great power, remarkable definition, and does not require focussing. The cheapness of the article will make it exceedingly popular when its merits are more widely known. It is called the "Bristol Microscope," and is a great credit to the inventor, as much for its extreme simplicity as its power.—The *Western Daily Press* says: The Bristol Microscope has a magnifying power of 20,000 times, &c.—The *Western Daily Telegraph* says: The Bristol Microscope is the most compact and useful scientific instrument we have ever seen; it possesses extraordinary power, and is very easily managed, &c. The price of the Bristol Microscope is only 2s., or free by post, with printed directions, for 28 stamps.—Address, J. C. Swan and Co., Opticians, 16, Queen-square, Bristol

BREAKFAST—EPPS'S COCOA—GRATEFUL AND COMFORTING.—The very agreeable character of this preparation has rendered it a general favourite. The *Civil Service Gazette* remarks:—"By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected cocoa, Mr. Epps has provided our breakfast tables with a delicately flavoured beverage which may save us many heavy doctors' bills." Each packet is labelled—JAMES EPPS AND CO., Homœopathic Chemists, London. Also, makers of Epps's Cacaoine, a very light, thin evening beverage.

MINING NOTABILIA.

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

Camborne, Dec. 15.—The mining market has been dull this week, owing to the close of the year approaching. The principal dealings have been in East Lovell, East Seton, North Crofty, Cook's Kitchen, Tincroft, East Pool, South Frances, and Rosewall Hill shares. East Lovell, 24½ to 25, firm; but, from reliable authority, the mine is not so good as it has been, and the cause of the shares keeping their present price is owing to a "bear" market, but should there be a slight improvement take place in the mine the shares would go up to 50*l.* very quickly. East Seton, 15s. to 20s.; these shares are worth attention, as at any day they may have a great rise. North Crofty, 30s. to 32s. 6d., firm; a number of shares have been purchased in the immediate neighbourhood by parties knowing the mine, so there appears a good chance here to make money also. Cook's Kitchen, 18½ to 19, firm; the mine continues to look well. Tincroft, 44½ to 45; these shares are good to buy for investment; the mine continues to look exceedingly well. East Pool, 10½ to 11. South Frances, 29 to 30; this mine is improving, and shares will go much higher ere long. At Dolcoath meeting, on Monday, they declared a dividend of 3*l.* per share, carrying forward a good balance, and the report is considered better than for some time past. A meeting of adventurers in New Hendra was also held on Monday, at Abraham's Hotel, when a call of 5s. per share was made. Messrs. Ward and Littlewood, of Crosby House, London, were appointed pursers. Capt. William Rowe, of Wheal Seton, manager, and Capt. King, working agent. The mine is divided into 2000 shares, on the Cost-book System. This is considered a very valuable property by practical mining agents in the neighbourhood, and the shares are taken up by very influential gentlemen in the county. I wish them every success, and no doubt by perseverence and economy their outlay will not be regretted. Leeds Mine meeting was held also on Monday, at Tregoning's Commercial Hotel. This is considered a good property. Also a meeting is to be held again shortly to make a call and sub-divide the shares. They have a very kindly lode for tin, and from present appearances it will greatly improve shortly. At Camborne Vean, a very good improvement has taken place for copper at the 106 fm. level east, on the Town lode. This mine has ceased working for nine months, but recently Mr. Reynolds has granted a lease on most favourable terms to Messrs. Vivian and Sons and Capt. Clymo, the late agent, to commence operations again. It is to be hoped their perseverence will be attended with success. There is another very important thing connected with this mine, which is, they can work it dry for 180 fms. from surface, requiring no pumping machinery whatever. I would add that the prospects in mining are very cheering for the coming year, and tin keeps very firm, with every prospect of advancing in prices before long. Copper also firm.

The GEM TIN MINE, belonging to Mr. Barnard, has only been working a short time, yet will soon be in the market with several tons of tin, and is likely to be a very profitable mine.

GUNNISLAKE AND WHEAL RUSSELL.—Last year I predicted that in 1870 Gunnislake (Clitters) would pay dividends. It has already paid two, and they are likely to be continuous. They have nearly 1000*l.* in hand, and all debts are paid. So far my opinion has proved correct. I now name another mine that will be early in the Dividend List in 1871—that is, WHEAL RUSSELL. It is a mine very cheaply worked by water-power, and all debts are paid.

The accounts from the TERRAS MINES are of the most satisfactory character. No report of sale of tin for November having appeared last week created some surprise to parties not conversant with the facts of the case. The inclement weather alone prevented the preparation of the usual parcel; this will be rectified in the next month, as the sales then will be double that of the returns for October or September; this tin will be from the great elvan only. It is found to be a great trouble and cost to haul the rich tin from Edward's shaft by tackle and winze kibbles, therefore preparations are being made to draw it up by proper machinery; again, every one acquainted will be aware of the advantage of stamping out poor stuff to fill the interstices necessarily created in ever so carefully constructed floors. We refer to the reports in another column as to the state of the mine, lodes, &c., and have only to add that all who have seen the realities of the Terras, agree that it is the tin mine prize for the year 1870, and that in the next year the mine will enter the Dividend List, there to remain, a proof that tin mining in Cornwall, if properly carried out, when good and true lodes are selected, is not only a profitable but a lasting business, and a valuable investment. We believe there are no shares in the market, except at a nominal and high figure.

EAST CHIVERTON.—Capts. J. Grose, R. Southey (Dec. 14) write—Immediately after the last general meeting we commenced changing our pitwork in Bartlett's shaft, and to sink the said shaft, as per resolution thereon. We have put in a new balance-bob at surface, altered pumps to a larger size, and changed bucket-lift into a plunger-lift, and made all complete down to the 40 fm. level. Such work has occupied much of our time; this work has been done well, and on the best known system for the most economical pumping of the present or future increase of water. The shaft is being sunk with all speed, and we are now down 2½ fms. below the 40 fm. level. When we commenced the rock was hard, it is improving as we sink, and during the sinking of the last 6 ft. the rock is a good deal better for speed, with strong indications of further improvement; sinking by nine men, at 20*l.* per fathom. We have sold a small parcel of silver-lead ore from the back of the 40 fm. level, and have left a good lode going down in the bottom, which we have every reason to believe will prove further productive the deeper we go. The 25 fm. level has been driven 4 fms., the ground favourable, the lode highly mineralised, with a good gossan; in deeper levels we think it cannot fail in making rich for silver-lead ore. Owing to altering pitwork our costs are a little above the average. We estimate that next four months about the same amount will be required; probably it may be less, but no efforts shall be spared to get down the shaft, and see the lode at deeper levels, where it underwent such a favourable change, as in West Chiverton, Chiverton Moor, and Chiverton. These are all on the same lodes. With time, and small outlay, we look for the present operations to result in opening up as prosperous a property as our rich neighbours. The engine is in first-class order, and water easy. Coal cost very moderate.

NORTH DOWNS.—In his monthly report upon this mine Capt. J. Williams states that the ends are not rich, but as they are working ground which is subject to such frequent changes they consider it only temporary. The chief point is the sump-winze, where the lode is daily improving, and by its appearance when united with the south lode will make a good course of ore; this, together with the expectation of cutting something good at Bennett's, might any day place the mine in a paying position. They are carrying on the mine with all energy, and have driven and stoped during the past four months over 103 fathoms of ground. They are busily engaged dressing for their next sampling, which will be about the same quantity as the last. Their engine is put in good working order, and is adequate for all requirements.

WEST ESGAIR LLE.—The lode in the 10 fm. level is opening out, and has increased in value during the past week. A fathom or so further driving will bring this level into a rich lode. A box of very fine specimens is now at the office, for the inspection of shareholders.

TREVARRACK.—Operations here are prosecuted with vigour and success. There is every probability of a rich mine being laid open.

KING ARTHUR (Tintagel).—The lode in the adit, in the cliff at this mine, has greatly improved during the last week; it is about 3 ft. wide, between two well-defined walls, composed of beautiful gossan, in which is embedded a course of silver-lead 6 in. thick. This gossan sells for 3*l.* per ton for the silver it contains, and the lead ore, just as it is found, without any dressing, fetches 16*l.* 5s. per ton. One of the four lodes in this sett carries a quartz capel, in which spots of silver are seen similar to that in its rich neighbour, Old Treburgett. A visit to King Arthur's Castle and mine would at once show the investor the favourable and definite prospects of this becoming at an early date highly remunerative.

NORTH HOOE.—In noticing last week that a company was being formed for re-working this valuable property, the sett was unfortunately called North *Hove*, instead of Hooe. The locality being so correctly described, the error would, however, at once be detected by all acquainted with the district.

THE ROMAN GRAVELS MINE (near Minsterley).—We are given to understand that this celebrated mine, which was famous in the Roman era for the great amount of mineral wealth which it yielded, has passed into fresh hands. The new proprietors are said to be men of large capital, who occupy an important position in the mining world. Great credit is due to the former proprietors, who resided chiefly in Shrewsbury and the immediate locality, for the able, judicious, and spirited manner in which the mine has been managed for now upwards of eleven years. When they commenced their labours, lead mining in Shropshire was at a very low ebb, and there was an utter want of confidence in mining speculations. For seven years they met with great difficulties, and had to serve a very hard apprenticeship, still they never lost heart, and fought on, and pursued their onward course, until success crowned their efforts. The mine has been handed over, with its first-class machinery and appliances of every description, in the most perfect order and condition, and the present owners are to be congratulated on having acquired so valuable a property. For the sake of the neighbourhood generally we wish them every success. The Shropshire lead mining field is now commanding that attention to which it is fully entitled.—*Eddowes's Shrewsbury Journal.*

MINING IN THE ISLE OF MAN.—We are pleased to learn that a very important discovery of lead ore has been made at Ballanicholas, in the Foxdale sett. It is considered to be one of the most promising discoveries ever made by the company. We are also given to understand that within a mile from the place referred to another discovery of perhaps more than equal importance has been made. We are glad to hear that Capt. Bawden has secured a licence for working the place, which will form a new sett, and we have no doubt that, under his able management, and the promising appearance of the property, a valuable mine will be opened out.—*Isle of Man Times.*

CHEMICALS AND MINERALS.—Messrs. J. Berger Spence and Co., of Manchester, Dec. 15.—Soda: Ash firm at last week's prices—1 13-16d. to 1⅞d. per degree. Cream caustic rather better, at 12*l.* 10s. for 60 per cent.; and white, at 13*l.* to 13*l.* 5s. Soda Crystals unchanged, at 4*l.* 2s. 6d. to 4*l.* 5s. Bi-carbonate at 9*l.* 15s. to 10*l.*, and 4*l.* 15s. for refined. Salt cake, 3*l.* Glauber salts, 3*l.*—Nitrate of Soda is steady, and prices are at 15*l.*, with an upward tendency.—Potash: A good trade has been done in muriates during the past week, and 9*l.* 10s. to 10*l.* is asked for 80 per cent. f.o.b. Prussiate—yellow, 11¾d. to 1s.; red, 1s. 9d. to 1s. 10½d. Chlorate of potish, 10½d.—Saltpetre has been drooping, and sales are effected for foreign at lower prices.—Alum in good request. Loose lumps 6*l.*, and in export barrels 7*l.* Ground at 7*l.*—Ammonia: Brown sulphate continues at 14*l.* to 14*l.* 5s. White and grey is not so active, at 16*l.* to 16*l.* 10s. Muriate, 23*l.* to 24*l.* Carbonate, 6d. per lb. Sal-ammoniac, 42s. to 43s. firsts, and 41s. seconds.—Iron Salts: Green and rusty copperas in more enquiry, at 52*l.* to 54s. Dry at 52s. Chloride of iron, 6*l.* Prussian blue, 1s. 6d. to 2s.—Copper Salts: Sulphate of Copper, 22*l.* to 24*l.*—Arsenic at 6*l.* 15s. to 7*l.* 5s. fine powdered.—Acid: In Tartaric demand rather better, and prices remain 1s. 3¼d. to 1s. 3½d.; oxalic, 7¾d. to 8d.; sulphuric, 3*l.* 5s. to 3*l.* 15s.—Magnesia 4*l.* 10s., to 4*l.* 17s. 7d. for refined.—Oils: Olive is steady, at 48*l.* to 52*l.* Spindle and loom oils continue to be well enquired for. Pure white Norwegian cod liver oil, 6s. 6d. to 7s. per gallon.—Pitch: Business can be done, but prices are not tempting to holders.—Benzole is unchanged; 30 per cent., 2s. 3d. to 2s. 4d.—Disinfectants: Patent, at 5*l.* per ton; carbolic at 10*l.*—China-clay, 22s. per ton.—Pyrites firm, at 6d. to 7½d. per unit; calcined Spanish, 43s., R.C.—Lime: Bleaching-powder continues to sell well, at 9*l.* to 9*l.* 10s.—Super-phosphates: The demand for new quality for next year's delivery continues. Ordinary, 4*l.* 5s. to 4*l.* 10s.; mineral 60s. to 65s.; Estramadura, 1s. 2d. per unit.—Manganese at 75s. to 80s. for 70 per cent.—Iron Ore: Hematite firm, at 16s. to 18s.; oolitic, at 6s. 9d. to 7s. 6d. in Staffordshire.

FOREIGN MINES.

ST. JOHN DEL REY.—The directors have received the following report, dated Morro Velho, Nov. 17:—Morro Velho produce for October, 9538 oits., from 3655 tons of ore, yield 2·609 oits. per ton. Morro Velho cost for October, 4148*l.*; loss, 462*l.* Morro Velho produce, 11 days of November, 3423 oits., yield 2·140 oits. per ton. The October produce is as good as could have been expected, considering we were deprived of the use of the Bahu hauling-wheel for 18 days of the month.

ANGLO-BRAZILIAN.—Mr. F. S. Symons reports for October: Produce, 2544 oits., at 9s., 1144*l.*; cost, 1447*l.*; loss, 303*l.* The yield of the stone has not answered expectations; the standard is about the same as in September, but less stone has been stamped, owing to scarcity of water. The produce has, therefore, fallen off. Attendance has been a trifle better.—Extract from letter, dated November 17: No alteration to note.

DON PEDRO.—Mr. F. S. Symons reports for October: Produce, 5374 oits., at 8s. 6d. per oit., 2283*l.*; cost, 2866*l.*; loss, 583*l.* The works have been carried on with regularity, and progress both in driving and sinking accomplished, but the lode excavated has been of low standard. Alice's west has at times given promising samples, but no defined line encountered.—Extract from letter, dated November 17: Produce weighed to date, 3743 oits. I have much pleasure in informing you that there is an improvement in quality of lodes at Alice's west. Four boxes were excavated from a small line on the 13th, which yielded about 90 oits. This is highly satisfactory, and I trust the amelioration will continue.

GENERAL BRAZILIAN.—Capt. T. Treloar reports for October: The weather has been fine, and general progress satisfactory. The force is increasing, but the health of the establishment has not been quite so good, and this is generally the case in the transition month from dry to wet season. At Itabira the shallow adit seems now to have reached the auriferous jacotinga, for the samples occasionally show a few particles of gold. At the middle adit 4 fms. have been driven, and a shaft, No. 1, sunk 17 fathom for ventilation. Both adits are still dry. Northerly of outcrop of the St. Anna Mine we are raising stone for building. This stone is "canga," and frequently it has afforded samples of gold, so we infer that the jacotinga below is auriferous. It will be explored.—Extract from letter dated November 16: To date all is progressing well, the adits are advancing, sickness decreasing, and force coming in.

ROSSA GRANDE.—Mr. Ernest Hilcke reports for October: The gold return for the month amounts to 2769 oits.; total cost for the month, 879*l.* At Mina de Serra the size of the lode in the 40 fm. level west has considerably improved; it is at present 5 ft. wide, and its appearance bears strong indication of being the commencement of the eastern part of the shoot from Mina de Alto. The 50, west of new shaft, has been driven during the month through a well-yielding lode, leaving some stoping ground in the bottom. A lode of good quality has been intersected by a barrow-road, commenced above the 60 fm. level, west of shaft; its size, at present 2 ft. wide, is to all appearance opening out. The dimensions of the lode in the stope in the back of the 40 and bottom of the 50 fm. levels have not been so favourable as previous month, but the auriferous quality continues very good. During the month 101 tons of ore have been treated from this mine, and yielded 1728 oits., equal to 17 oits. per ton.—Extract from letter dated NOV. 16: "I have the pleasure of advising you of Capt. Treloar's visit here, who, after closely inspecting this mine and Gongo, decided to discontinue operations at the latter place, and to suspend the works at the Caco lode until the next dry season, and to concentrate the force to Minna da Serra; and if any hands can be spared here, to put some to the Cachoeira Mine. All his views have met prompt attention."

TAQUARIL.—Mr. T. S. Treloar reports for October: 37 ozs. 15 dwts. troy of gold have been derived this month, from about 1 ton of mineral, broken principally from a new shoot met with in old workings, in the manganese or jacotinga formation lying upon the top lode. This shoot was discovered on the 13th, and the first bunch of box-work taken therefrom proved excessively rich—superior, indeed, to everything hitherto reported, 1 cubic foot of stuff, as broken in the mine, having produced over 2 lbs. of gold, besides several nuggets. Most of the stuff, however, since extracted, though highly auriferous, has not been suitable for hand treatment; but the fact that a good bunch of box-work has been met with in the manganese is a matter of the greatest importance, and one which augurs well for Taquaril.

CHONTALES.—Capt. J. Tonkin reports for October—San Antonio Mine: The No. 1 stope, in the back of the No. 6 level, west of the No. 2 rise, has been stoped 80½ varas; the lode is 3 ft. wide, worth 5 dwts. of gold per ton. The No. 2 stope, in the back of the same level, west of the No. 2 rise, has been stoped 76 varas; the lode is 3 feet wide, worth 9 dwts. of gold per ton. A stope in the back of the connection level has been stoped 74 varas; the lode is 3 feet wide, worth 5 dwts. of gold per ton. The connection level has been driven east, on the course of the lode, 8¼ varas; the lode is 2 ft. wide, worth 4 dwts. of gold per ton. There has been no improvement in this level since my last report. Driving west of the new eastern cross-cut, on the course of the lode, 13½ varas; the lode is small and poor. Driving east of the new eastern cross-cut, on the course of the lode, 9½ varas; the lode is 3 feet wide, worth about 4 dwts. of gold per ton. We are driving a shallow cross-cut on the top of the mine, to take away the old pillars left behind, and which I think will pay for taking at this level. The ground in the back of the No. 5 level is in such a broken state that it is almost impossible to take away the above from the No. 5 level. The Santo Domingo deep level has been driven 3 varas; the ground is much easier for driving during the last few days. I hope to cut the lode at this point by the end of the month. The mine, together with tramways, are in good working order, and I hope to keep the stamps constantly supplied with quartz. The number of tons sent to the reduction-works for the month amount to 957, worth 7 1-5th dwts. of gold per ton, realising 345·500 ozs. of melted gold.

The directors have advices from Mr. Belt, dated Nov. 8:—Returns of gold for the month of Oct., 345 ozs., from 957 tons of ore; average produce, 7 1-5th dwts. per ton; cost for the month, $4586. The San Antonio Mine continues to open out with very encouraging prospects. Mr. Belt expresses a strong conviction that with adequate means to develope the other mines, considerable profits can be returned, and, so far as he is able, the works are being pushed on with the utmost vigour. The health of the establishment continues to be good.

CUIABA (Gold).—Nov. 12: Beyond the line of white auriferous quartz mentioned in my former letter, we have since passed through at the 73 fm. level a line of highly ferruginous substance, yielding a higher percentage of gold than that extracted from the stone of the superficial workings. I have now the pleasure to inform you that on the 29th ult. we reached the covering wall of the Fonte Grande lode, and have since been driving most successfully. Boring and blasting began on the 31st ult., and on the 4th inst. the end of the drive was entirely in the blue clay-slate. Every preparation is being made to convey the ore to the stamps, and I hope by next advice to report gold extracted from the lode. All hands being employed upon this level, gold produce from superficial workings has been much reduced this month for the more profitable future operations on the lode.

SWEETLAND CREEK (Gold).—The directors have received the following telegram, dated Dec. 14, from their agent, Mr. G. D. Maclean:—"We have cleared up, after a run of 36 days. The gross returns are $17,000. The profit is $9000, minus $1000 for taxes. I send you a remittance of $8000."

EXCHEQUER (Gold and Silver).—Lewis Chalmers, Nov. 7: During the week ending Nov. 5 the air-shaft was raised 8 ft. The north drift from the 50 was pushed in 4 ft., the men being engaged some part of their time raising water and dirt. The north drift from the 80 was run in 6 ft.

—Nov. 14: I have now to report for the information of the board that the air shaft was through on Saturday at 162 ft., having made 13 ft. last week. It will take a few days to timber and level for the chimney; this done, this shift resumes the driving of the upper tunnel. The shift in the 80 made 9 ft., and that in the 50 made 6 ft.

ECLIPSE (Gold).—Capt. Barratt, October: General Operations: Since my last we have resumed the sinking of main shaft below the 160 feet level; lode 3 ft. wide, composed of quartz, iron pyrites, the oxide of iron and gold in sufficient quantity for the mill. This lode in the last 6 ft. sinking has greatly improved, and indicates further improvement. I believe we shall soon have a very rich lode in this shaft. In the stopes in the back of the 100, north of main shaft, the lode is several feet wide of melting ore. Two men only are engaged here, but when our next staff arrives we shall force on all the most prominent points with vigour. The whim and railways in the mine are working well, and established mining has commenced, which will be carried on without hindrance. The engine and boiler are fixed, and the stamps, with other necessary reduction attachments, will be erected as quickly as possible. A stock of wood (for fuel) is being got in, and everything to facilitate the speedy erection and working of the stamps for returning produce is being executed with the greatest possible expedition.

TUOLUMNE (Gold).—E. S. Hast, Grizzly Mine, Sonora, California, Oct. 17: Things here, as I sent you word in my last, are looking promising, and if the additions and alterations in the mill are made, I feel certain we shall make the concern pay good dividends. We shall not have crushed our first 100 tons (of quartz) till next Saturday, as we have been hindered by making alterations in the stamps. I shall clean up the mill on Saturday, and will telegraph you the result. Our new amalgamator I like very much better than the first, and I believe he will suit. I am still of opinion that $7 per ton will cover all costs, and if we only have 50 stamps going, a very low grade rock will pay well, while shoots of richer ore (which in regular working we may confidently look for) will greatly increase the dividends. I feel justified in leading you to expect that at least a profit of $2 per ton shall be seen on every ton we crush. Don't think me over sanguine, but I do feel certain of success if the proposed alterations in the machinery are carried out.

BRAGANZA (Gold).—Captain Roberts, Morro do Tabaco, Nov. 15: Morro das Almas rejo (water-course) is began by all the available force we can spare; I have no doubt in the course of a few days there will be a good force on the same. A deep adit has been driven 7 fms. 2 ft. 4 in. on No. 1 lode south by three men; samples show gold. B cross-cut has been driven 30 fms. 5 ft. 5 in., and now driving through No. 2 lode; it is 4 ft. big in the backs—samples produce gold. Driving north of the Rasgar the lode is 2 feet big, producing fair samples of gold; this looks well, going back north towards the new houses. At D cross-cut we have cut No. 3 lode two days ago; the same is 3 ft. big; I washed the samples myself, and was pleased with the produce. Owing to some falls of rain we have commenced stamping some of the mixed coarse rough stuff, in order to clear the rego. Everything for the new water-wheel will be ready in two days more. Owing to new earthworks and heavy sudden falls of rain, it has given us plenty to do, but I am glad to say everything has gone on well.

VAL ANTIGORIA (Gold).—Thos. Roberts, Dec. 2: In the month of November we worked four mills 24½ days, and amalgamated 47⅛ tons of ore, from which we obtained 43 ozs. 5 dwts. of gold, and have consigned the same to Signor Menozzi for sale. In the past month we resumed the cross-cut east at the 20 at the south mine, also the rise in the back of the 30 against the incline shaft, and communicated the rise to the shaft. We shall now work a full pare of men to open the rise large enough for the shaft, and we hope in about six weeks to bring the wagon down through the incline to the 30. The stopes in

the back of the 20, south of incline, on No. 2 lode, gives 2 tons of ore per fathom The stope in the back of the 10 yields 1 ton per fathom. The stopes in the back of the 20, south of main shaft, on No. 1 lode, 1½ ton per fathom, and those in back of the 10 north the same.

FORTUNA.—Dec. 7: Canada Incosa: In the cross-cut in the 120, north of O'Shea's shaft, we have cut through the lode, and begun to drive west on its course; it has a kindly appearance, and yields 1½ ton per fathom. In the 110, west of O'Shea's shaft, the ground is very hard for driving. On opening the north side of the 110, east of the above shaft, the main part of the lode has been reached; it contains good stones of ore. The lode in the 100 west is very small, and the ground hard for driving. The men are going on at a moderate rate with the 80 cross-cut, south of O'Shea's shaft. In the 50, east of San Pedro, the lode is large, with good stones of lead, giving about ½ ton per fm. In the 60, east of the same shaft, the lode yields ½ ton per fm., but we expect an improvement when the end reaches the point above, which in the 50 is a good lode. The lode in the 69 west is large, and produces good stones of ore—¼ ton per fathom. In the 90, east of Addis's, the lode is very wide and strong, consisting chiefly of carbonate of lime and good stones of ore. In the 80, east of Lownde's shaft, the lode yields 1 ton per fm., and is compact and regular.—Winzes: Burgo's winze is communicated to the 80; the lode here is of a promising appearance, and yields 1 ton per fathom. In Callejon's winze, under the 110, the lode underlies at a great rate; it has a good leader of lead on the north side, producing 1½ ton per fm. The lode in Avivar's winze, below the 110, is improving, there being a compact branch on the south side, and yields ¾ ton per fathom.—Los Salidos: In the 100, west of Buenos Amigos engine-shaft, good tribute ground was opened in the past month, but the lode has failed during the last few days. The 90 west has passed through the strong cross-course, and reached the lode on the west side of it, where it produces 1 ton per fathom. In the 75, west of San Carlos shaft, the lode is very compact and firm, and opening good ore ground, worth 2½ tons per fathom; the ground is very hard, and the lode small, in the 110, east of Morris's engine-shaft. In the 100, east of Cox's, the lode is very strong and regular, yielding 3 tons per fm., and the ground moderately easy for driving. The lode in the 90, east of San Pablos shaft, although much smaller than it was, is still of a very promising appearance, and yields 2 tons per fathom. In the 25, east of Palgrave's, the lode yields ¾ ton per fathom, but is not so regular and compact as it was; and in the same level west the lode also yields ¾ ton per fm., but is divided into branches.—Shafts and Winzes: At Buenos Amigos engine-shaft, under the 100, the men are working very regularly, and making moderate progress; the lode here yields ⅗ ton per fathom. In Castelar's winze, below the 65, the lode is rather small at present, yielding 1 ton per fathom. A great improvement has taken place in Simon's winze, under the 90, the lode now giving 2 tons per fathom. In Jurado's winze, under the 100, the lode is small, and the granite hard for sinking through. The tribute department at Salidos produced a large quantity of ore in the past month, and the stopes are doing well at present. The surface operations in both sections of the mine are going on very regularly, and the machinery is in good working order. We estimate the raisings for December at 500 tons.

LINARES.—Dec. 7: Pozo Ancho: In the 85, west of Warne's engine-shaft, the lode continues unproductive. There is no improvement in the 75, west of Crosby's engine-shaft, the lode being small and irregular. The lode in the 65, west of San Francisco shaft, is very compact and firm, yielding 2 tons of lead ore per fathom. In the 55, west of this shaft, the lode is small and declining in value, now yielding ¼ ton per fathom. In the 45, east of the same, the lode is improving in appearance, and producing at present 1 ton per fathom. In the 25 east nothing of any value has been met with.—Shafts and Winzes: Crosby's shaft, sinking below the 75, is now communicated with the 85 fm. level, In San Francisco shaft, under the 65, the ground is hard for sinking through. Good progress is being made in No. 174 winze, below the 65 fm. level, which contains a lode worth 2 tons per fathom.—Quinientos: The lode in the 55, east of Taylor's engine-shaft, is split into branches, and quite unproductive. In the 45, east of Addis's shaft, the lode is large, and spotted with lead, In the 45, west of Taylor's, the lode is large, and of a promising character, yielding 1¼ ton per fathom. There is nothing new to notice in the cross-cut driving south of Cox's shaft, at the 45 fm. level. The lode in the 32, east of Addis's, is wide and strong, and containing good stones of ore. In the latter part of last month the 32, west of Henty's, opened some good ore ground, which is now yielding ¼ ton per fathom. In the same level, east of Henty's shaft, the lode has declined somewhat during the past week, but yields at present 1 ton per fathom. In the 45, west of San Carlos, there is no improvement to notice. The lode is not looking so promising in the 45, east of the last-named shaft, as it was a few days ago. The 32 east is still in old works, with good stones of ore standing at the side of the old level. The 32 west is being driven on a side branch, yielding ¾ ton per fathom, which is very easy for opening.—Shafts and Winzes: The men are doing good labour in Taylor's engine-shaft, sinking below the 55 fm. level. In Giles' winze, under the 32, the lode is improving, and turns out 1¼ ton per fathom. Castellano's winze, under the 45, and in advance of the 55 fm. level end, west of Taylor's, is going down in a very strong and good lode, yielding 2 tons per fathom. The stopes yielded the full complement of mineral during the past month, and are now looking much as usual. The machinery is in very good working order, and all surface operations are going on regularly. We estimate the raisings for December (5 weeks) at 325 tons.

ALAMILLOS.—Dec. 7: The 5th level, east of San Rafael shaft, having reached the main cross-course is suspended, and the men put to drive the 4th level east of the said cross-course. The lode in the 5th level, west of this shaft, is unproductive. Nothing has been done during the past month in the 4th level, west of San Martin shaft. In the 4th, east of La Magdalena, the ground is very hard for driving. The lode continues unproductive in the 5th, east of San Enrique. At the 6th, east of Taylor's engine-shaft, we have cut through the north or La Magdalena lode, and began to drive east on its course; it yields ¼ ton per fathom. The lode in the 6th, west of Taylor's, is large and open, yielding ½ ton per fathom. In the 4th, west of San Yago's shaft, the lode is large and easy for driving, and looks very promising. The 3d level, east of San Victor, is in contact with the main slide, and will be suspended for the present. In the 2d level, east of San Carlos, the lode is unproductive. The 2d level, east of Addis's shaft, opened very good ore ground in the past month, but has fallen off a little just now, yielding ¾ ton per fathom. In the end of the 3d level, west of Addis's, the lode is slightly disarranged and irregular, yielding ¾ ton per fathom. The 3d level, east of Crosby's, has opened a good length of valuable ore ground in the past month, but has changed unfavourably in the past day or two; now giving ⅔ ton per fathom. The lode in the 3d level, west of Crosby's cross-cut, shows indications of improvement. In the 2d level, east of Swaffield's shaft, the lode was very valuable during a part of last month, but is rather small at present, and yielding ¾ ton per fathom. The same level west is opening fairly productive tribute ground, worth ¾ ton per fathom.—Shafts and Winzes: The men are going on very regularly, although rather slow, with Taylor's engine-shaft under the 6th level. In San Francisco shaft, under the 4th, the ground is very hard for sinking in. La Magdalena shaft will be completed to the 6th level in a few days. Crosby's shaft, under the 3d level, will likewise be finished in a day or two. Very little progress was made in Morris's shaft during the past month; the lode yields ⅛ ton per fathom. Luis' winze is going down under the 5th level in a strong and regular lode, yielding 1 ton per fathom. Fello's winze is holed to the 3d level, and has rendered available a good length of tribute ground. In Horno's winze, under the 2d level, the ground is rather hard for sinking. In Roque's winze, under the 5th level, the lode has greatly improved, and now yields 1 ton per fathom. In Cox's shaft, below the 3d, the sinking is temporarily suspended, in consequence of the difficulty of keeping out the water. The tribute department yielded the average quantity of mineral in the past month, and the stopes are without any noticable alteration at present. The machinery is in very good condition, and the surface works throughout the mine are going on very regularly. We estimate the raisings for December at 275 tons.

RHINE.—Capt. Garland, Dec. 13: Schmelzer: Toni Lode: Since my report, under date of Nov. 29, we have had considerable hindrance, on account of our insufficient means at first to keep under the large quantity of water given out by the recently-intersected lode; this has been remedied by our using a much larger water-barrel than before, and from the flookan of the lode coming away so freely with the water as to necessitate close timbering, &c. The lode, as at present seen, averages 2½ feet wide, and has a well-defined and very promising character; it is accompanied by a fine flookan, some 12 in. through, close upon which runs a branch of red blende, 3 to 4 in. wide; the remaining part of the lode consists of quartz and killas, 12 or 15 inches of which is more quartzose than the rest, and is intermixed with coated copper pyrites of good quality, yielding occasionally capital stones of ore, upon which rich salts of copper are deposited. The lode is cut off, apparently by a smooth and almost vertical wall of stiff clay slate, but that this is purely local, and does not form the footwall, there is good reason to believe. From the fact that we found a pretty stone of lead (galena), which had washed down with the debris, and that we have failed to discover any of this ore in the lode, we may expect to find more of the lode shortly, and bearing lead. Moreover, according to report, on good authority, this lode is 9 feet wide in the 13 fathom level of the old workings, and carries a branch of lead from 6 in. to 2 ft. wide. We shall continue to cross-cut, in the hope of still better results. The bearing of the Toni lode, as nearly as can be ascertained at present, is 34° east of south and west of north.—Marienfreude and Adele: We are prosecuting trial works in these setts, but with no favourable results hitherto. The ground continues fair for driving, and is being driven for 25s. to 30s. per fathom. We have not been able to resume sinking the winze in Marienfreude adit level, the foundry having as yet failed to execute the order for the hand-pump.

SATURDAY.—Market active for good dividend-paying tin mines, and stocks very scarce. Cook's Kitchen, 18½ to 19½; East Lovell, 24½ to 25½; Providence, 39 to 41; Tincroft, 44 to 46; Great Vor, 3½ to 4; South Condurrow, 3⅛ to 3½; Rosewall Hill, 22s. 6d. to 25s.; Drake Walls, 23s. to 25s.; Grenville, 2 to 2¼; West Chiverton, 51 to 53; Van, 51 to 53; Prince of Wales, 19s. to 21s.; Taquaril, 49s. to 51s.

MONDAY.—Good demand for Perran Wheal Virgin, Prince of Wales, Grenville, Tankerville, Taquaril, East Caradon, and West Tankerville. Perran Wheal Virgin, 32s. 6d. to 35s.; Prince of Wales, 20s. to 22s. 6d.; Grenville, 2 to 2¼; Tankerville, 13 to 13½; Taquaril, 49s. to 51s.; East Caradon, 5½ to 6; West Tankerville, 2¾ to 3; Great Laxey, 17⅛ to 18; New Beldon, 15s. to 20s.; New Lovell, 25s. to 30s.; Parys Mountain, 3¾ to 4¼; Don Pedro, 2¼ to 2⅜.

TUESDAY.—Market moderately active. Grenville, Prince of Wales, Taquaril, West Tankerville, Perran Virgin, East Lovell, and New Lovell chiefly dealt in. Grenville, 2¼ to 2⅜; Prince of Wales, 19s. to 21s.; Taquaril, 48s. to 50s.; West Tankerville, 3 to 3⅛; Perran Wheal Virgin, 32s. 6d. to 35s.; East Lovell, 24½ to 25½; New Lovell, 29s. to 31s.; West Chiverton, 51 to 52; Van, 51 to 53; West Maria, 25s. to 30s.; East Grenville, 2⅛ to 2⅜; Don Pedro, 2⅜ to 2⅞.

WEDNESDAY.—Market rather quiet, and prices remain the same as yesterday. West Chiverton, 51 to 52; Van, 52 to 54; East Lovell, 24½ to 25½; Devon Great Consols, 95 to 105; Cook's Kitchen, 18 to 19; Tankerville, 13 to 14; South Condurrow, 3 to 3¼; Providence, 38 to 39; Prince of Wales, 19s. to 21s.; Taquaril, 48s. to 50s.; Don Pedro, 2⅜ to 2⅞.

THURSDAY.—Settling Day. The chief demand has been for Grenville, at an advance. Taquaril, East Lovell, and West Tankerville firm at quotations. Grenville, 2¼ to 3; Taquaril, 48s. to 50s.; East Lovell, 24½ to 25½; West Tankerville, 3½ to 3¾; Great Vor, 3 to 3½; Prince of Wales, 19s. to 21s.; Perran Wheal Virgin, 32s. 6d. to 35s.; Great Laxey, 17½ to 18½; South Condurrow, 3 to 3¼; Mary Ann, 8½ to 9; Don Pedro, 8⅜ to 3⅞; Sweetland Creek, 3⅝ to 3⅞.

FRIDAY.—There is a fair demand to-day for Tankerville, West Tankerville, Taquaril, Grenville, West Maria, East Lovell, and Providence. Great Vor flatter. Tankerville, 13¼ to 13½; West Tankerville, 3½ to 3¾; Taquaril, 50s. to 52s.; Grenville, 2¾ to 2⅞; West Maria, 25s. to 30s.; East Lovell, 24½ to 25½; Providence, 38 to 40; Great Vor, 3¼ to 3⅜; Drake Walls, 23s. to 25s.; Seton, 22½ to 27½; East Caradon, 5¾ to 6¼; Don Pedro, 2⅝ to 2⅞; Chontales, 10s. to 15s.

GREAT ROYALTON.—By a printer's error this mine was referred to last week as "Royalton." King's lode is expected to be cut in the 22 in about 10 feet further driving, and from indications a great discovery is anticipated.

Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—H. Francis, Dec. 15: In forwarding my weekly report it gives me much pleasure to say that the discovery in No. 2 adit continues to look quite as good as last week, and going east it is improving both in width and strength. The cross-cut driving north from No. 2 adit is at present in a poor part of the lode. The stopes in the back of No. 2 adit will yield about 1 ton of lead ore per fathom. The leavings from the former workers from above the deep adit will give us a handsome profit on the dressing. Our attention is now especially given to a cross-cut commenced by Mr. Rule's desire, some twelve months ago, which I shall call Rule's cross-cut. We this day commenced driving it north to intersect the same body of lead discovered in No. 2 adit, and I am of opinion that we shall soon get into this ore. Our dressing operations have been greatly retarded during the week through frost, but we are again in full work in this department, and with a few fine days it will made up for this loss of time. We have just sold our second parcel of 10 tons of lead, and are preparing our third for market.

ASSHETON.—W. Johns, W. Tipton, Dec. 13: The sinking of Lindow's shaft is suspended for the present, in order to fix a plunger-lift at the adit level, to pump the water to surface, so as to have a full supply for the dressing-floors. The winze sinking below the adit level, so far, is opening out very satisfactorily; the part of the lode we are carrying is worth full 1½ ton per fathom. The lode in the adit level is presenting a much better appearance. The water is forked out of Gundry's engine-shaft to the 28 fm. level from surface; the same being full of slime, I cannot see the end, but hope to shortly, judging by the ground worked away by the former workers. I think it very likely we shall find a good lode of ore, as reported. Winding-gear is now attached to this engine, and we are drawing the stuff, which will enable us to place two pares of men to stope the back of the level, where the lode is worth 25 cwts. of lead per fathom. We are getting on as fast as possible with the dressing-floors, but the weather of late has made very much against our surface work.

BALLACORKISH.—Capt. Treuren, Dec. 10: In the cross-cut driving east towards King's lode, at the adit level, we have intersected a branch crossing the end at right angles, which is from 2 to 3 in. wide, composed of quartz, prian, with sulphur intermixed, and letting out a pretty deal of water. In the end driving north of the Dowk vein, at the 12, the lode is producing some good work for blende, spotted with lead, and the water increasing, and from the appearance of the forebreast I anticipate an improvement very shortly. In the end driving north of the engine-shaft, at the 36 fathom level, the lode is from 15 to 18 in. wide, carrying a very pretty underlie, and running about north and south, producing some good stones of blende spotted with lead, letting out a quantity of water. The lode in the south side of the cross-cut is from 20 in. to 2 ft. wide, the water flowing strongly from the end.

BEDFORD CONSOLS.—Capt. Rowe, Dec. 13: The tinstuff is nearly stamped over, and in course of dressing, which I think is turning out well, judging from the results now in operation by stamping and dressing. It appears that nothing else is required but a sufficient amount of stamping power to make Bedford Consols a dividend mine.

— J. Mitchell, Dec. 14: There is no particular change in the middle adit level cross-cut south, towards the engine-shaft lode; the ground is still of a highly mineralised character, and a little water coming from the end. We have commenced to sink the shaft on the north tin lode, and have broken some good tinny work to-day; I think from its kindly appearance that it will improve as we go down. The tinstuff will be all stamped out to-night, when we shall push on the dressing as fast as possible.

BLAEN CAELAN.—J. Evans, Dec. 14: The lode in the shaft sinking from the 10 to the 20 is much the same as when reported on last week, carrying a nice rib of lead in the eastern end. The lode in the 10, east of shaft, continues to produce fully 30 cwts. of lead ore per fathom. All other places without change. The two sets of men in the 25 and in the straight adit are making good progress towards effecting the communication of one level with the other. The weather being again fine our machinery erections are progressing well.

BRONFLOYD.—T. Kemp, Dec. 14: Settings for December: No. 1 Shaft, South Lode: Since last report the sinking of this shaft has been completed to the 36, and a cross-cut started north from the bottom to cut through the lode; set to six men, at 180s. per fathom, the men to fill and draw their own stuff.—No. 3 Shaft, North Lode: Six men to drive west on the course of the lode from the winze in the 84, at 160s. per fathom; the lode yielding about 1 ton of lead ore per fathom. Two men to widen the plat in the 84 as per bargain (7l.) preparatory to sinking this shaft to the 96. Four men to drive the 75 fm. level end west at 180s. per fathom, stent 2 fathoms; the part of the lode carried by this level is producing a little lead. Fourteen men to stope the lode to the west or winze under the 62, at 60s. per fathom; the lode is worth about 2 tons of ore per cubic fathom. Four men to stope the lode to the east of ditto, at 40s. per fathom; the lode is worth 20 cwts. of ore per cubic fathom. Six men to stope the lode in the back of the 62 to the west of winze, at 85s. per fathom; the lode is worth fully 2 tons of lead ore per fathom. A tribute pitch is set in the back of the 52 to two men, at 130s. per ton of clean dressed ore. The cross-cut from the 40 west is now through the lode, and I have brought the men back, and put them to drive west in the hanging wall of the lode in favourable ground for progress; set to four men, at 65s. per fathom, the men to tram their own stuff. This bargain will be pushed on with all possible dispatch, so as to get under the point of No. 4 shaft, which we are sinking about 40 fms. in advance of this level.

BUDNICK CONSOLS.—J. Rawlings, R. Hill, Dec. 15: We have suspended the end in the 25 for a few days, as we require the men at surface; the tributers are raising a little better quality work. We sampled a parcel of tin on Saturday, Dec. 10, which realised 74l. per ton.

BWADRAIN CONSOLS.—R. Northey, Dec. 14: The lode in the 55 east is about 2 ft. wide, carrying a strong mixture of lead ore; the lode in the same level west is 2½ ft. wide, composed of quartz and strong spots of lead ore, and letting out a good deal of water. The lode in the 45 west is 1¼ foot wide, with a mixture throughout of fine quartz in killas. There is nothing new to report in driving the deep adit in Dolfawr. The stopes in the back of the 10 are nearly worked out; the other stopes are producing just the same quantity of ore as usual. The water has been rather slack during the frosty weather, but, all well, we intend to sample 30 tons of ore by this day week.

BWLCH CONSOLS.—R. Northey, Dec. 13: The lode in the 70 is 4 ft. wide, and looking much the same as last reported. The stopes in the back of the 70 are worth 1¼ ton of lead ore per fathom. The lode in the 60 is 2 feet wide, but a little disordered at present by a cross heave. The north lode, in the 40, is looking very promising, and I expect an improvement at this point shortly. The stopes and all other operations are going on as usual. All well, and if we are not hindered by frost or snow, we shall sample 50 tons of ore about this day week.

CAPE CORNWALL.—R. Pryor, J. Davey, Dec. 13: The lode in the 100, driving east of cross-cut, is improving in its appearance and character, and is producing good stones of tin. The ground in the 100 cross-cut, driving north of shaft, is of a very kindly nature, but having met within the last week a floor of spar it has for a time retarded our progress.

CAPPAGH.—W. Thomas, Dec. 12: I have just been through every part of the mine, and see no change of importance to notice since last report. All the work in the different places is going on in a satisfactory manner.

CARDIGAN BAY CONSOLS.—C. Williams, Dec. 15: Pensarn: The lode in the 10, west of the engine-shaft, continues to improve, the bearing part of which is from 3 to 4 in. thick, of nearly pure ore; we are laying open a fine course of ore in this part of the mine.—Brynarian Old Adit: No change in the cross-cut north from this level.—Boundary Adit: We have cut into the new lode about 4 feet, which is composed of spar, slate, and spots of lead ore. I expect to find a good course of ore on the footwall. The north and south lode is yielding good ore. The dressing is progressing very favourably.—Since writing to you this morning the lode in the 10 west, at Pensarn, has very much improved, being at present worth 25l. fathom, and improving.

CEFN BRWYNO.—James Paull, Dec. 13: The lode in the 92 west is worth full 1½ ton of lead ore per fathom; altogether a fine-looking lode, and better than seen in the level above. In the stope over this level, 60 fms. east of shaft, the lode is 5 ft. wide, yielding ½ ton of lead ore per fathom. At the 80 west the lode continues large, producing good stones of lead and blende occassionally. In the stopes over this level, west of winze, the lode is from 4 to 6 ft. wide, worth on an average 12 cwts. of lead ore per fathom, with some good blende. The lode in the winze sinking below the 80, 50 fms. west of shaft, is large, and the part being carried yields 14 cwts. of lead ore per fathom. In the stope over the 56, east of engine-shaft, the lode is 6 ft. wide, worth from 16 cwts. to 1 ton of lead per fm. Preparations will now be made for sinking the shaft below the 92 as quickly as possible. Our surface operations have been impeded a little by the late severe weather, but all is now going on regular.

CEFN CONSOLS.—C. Mansbridge, E. Evans, Dec. 15: We are still driving in the 9, and getting good lead, better than we have ever seen in this mine before. The lead ground in the east and west workings is opening out very wide, and is taking a much more regular form as it approaches the great north and south lode, which cannot leave any doubt in the minds of mining men that the junction therewith will be very rich. All other works are progressing favourably.

CHIVERTON VALLEY.—James Juleff, J. Trevillian, Dec. 15: Retallack's shaftmen are engaged fixing a plunger-lift in the 85 fm. level. The lode in the 85 east is at present small. In the 85 west the lode is 2 ft. wide, producing saving work, with a most promising appearance. In the 65 west the lode is 3 ft. wide, composed of flookan and mundic; this end we are pushing on to Tregoning's engine-shaft with all speed.

CHIVERTON MOOR.—G. E. Tremayne, W. Bennetts, Dec. 13: The shaftmen are making good progress in sinking Harris's engine-shaft below the 105 fathom level, which is down about 5 fathoms. The ground in the 105 fm. level cross-cut south still continues spare for driving. We have about 3 fms. further to drive to reach the lode. The lode in the 95 west is 3½ feet wide, composed of quartz, mundic, flookan, and lead, and will produce of the latter 7 cwts. per fathom, with every indication of a further improvement. The lode east at this level is 3 ft. wide, similar in character, and will produce 12 cwts. of lead ore per fathom. A rise in the back of this level is worth 20 cwts. of lead per fathom. The stopes in the 85 and 75 fm. level are producing much the same as when last reported. We are pleased to say the prospects of this mine have improved.

CRENVER AND WHEAL ABRAHAM UNITED.—Wm. Kitto, W. J. Paull, Dec. 13: Sturt's Engine-Shaft: The sumpmen are engaged in changing the bucket-lift from a 15-inch to a 12-inch, which will be completed by to-morrow morning, and we calculate upon seeing the 200 fm. level by the end of the week.—Pelly's Engine-Shaft: The plunger bottom is fixed in the cistern in the 200, and the men are rearing up the lift; when this is finished we shall send down two pieces of main-rods, which will take until the middle of next week. The 170 end, driving east of Blewitt's, is producing from 1 to 2 tons of copper ore per fathom. There is no change in the ground in either of the cross-cuts driving north and south. Vivian's shaft is cleared and repaired 5 fms. below the 190, and we hope to get the skip-road put down to that point by the end of the month, so as to draw the tributers' tinstuff. The levels are now being cleared and repaired as fast as possible. There is nothing new in our other tut-work operations.

CUDDRA.—F. Puckey, Dec. 13: In the cross-cut north-east of Walker's shaft, in the 142, we have driven through the north lode, which is full 16 feet wide; the north part of the same, for 8 feet, is composed of quartz, gossan, and iron. We have commenced to drive east on the south part of the lode, which has a very promising appearance, containing friable quartz and soft peach, and is producing saving work for tin. In the stopes in the back of the 142, east and west of No. 2 winze, no lode has been taken down since last report. In cutting out the lode in the 142, further east, the lode, as far as seen, is producing saving work for tin, and presenting favourable indications for improvement. The lode in

the stopes in the back of the 142, east of the cross-course, is 9 ft. wide, and worth 14*l.* per fathom. In driving and stoping the south lode and branches in the bottom of the 130, for 10 ft. wide, is yielding rich branches of tin, intermixed with capel, killas, &c., together worth for that width about 40*l.* per fathom. In the stopes in the back of the 130, west of the winze, the lode is from 12 to 15 ft. wide, and worth 16*l.* per fathom. The lode in the 130 end, driving east of Walker's shaft, is at present hard and unproductive.

CWM RICKET.—S. M. Ridge, Dec. 14: The ground in the deep adit level cross-cut continues favourable for driving, and I expect to intersect the lead lode in about 3 fms. more driving, if the lode continues its regular bearing. We have driven the new level on the course of the lode in the eastern part of the sett 4 fms. 3 ft., and we have a kindly, promising lode, containing spots of copper, lead, and blende, the lode letting out a little water, but the ground is strong and hard for driving, consequently the men have made but slow progress. The timber and machinery required have now arrived at Llanidloes railway station, and I have arranged with a carrier to deliver it on the mine, after which there shall be no lack on my part in getting all complete as soon as possible, and the machinery set to work, and the sinking of the engine-shaft resumed with all force.

DOLWEN.—J. Davis, Dec. 15: We have not holed the shaft to adit as yet; the men are labouring under great difficulties, one pare trying to work in very foul air, and the others are about half their time draining water, but they will get through now in a short time, as the men in the adit are sufficiently forward to commence rising to meet the shaft.

EAST BASSET.—John Lean, Dec. 14: There is no change to notice in any of the bargains since reported on for the meeting, on Nov. 29, except the winze sinking below the 100, which has rather improved in value.

EAST CARN BREA.—J. Rodda, Dec. 14: The 90 fm. level end, east of Buckley's shaft, is home to the cross-course, east of which we expect an improvement, when the lode is intersected, the ground is easy for driving, and good progress will be made towards the lode, which we hope to cut by the latter part of this month. The lode in the 90 west will yield 2 tons of copper ore per fathom. We have suspended the driving of the 80 west, and put the men to sink a winze in the bottom for the purpose of opening the ground between this level and the 90, and to obtain better ventilation; the lode in the winze is worth 1¼ ton of ore per fathom. The ground in the 60 fm. level cross cut, north of the old engine-shaft, is hard, consequently our progress at this point is slow. The tribute department is looking a little better.

EAST DARREN.—Dec. 13: In the 116 east nothing been done since last reported, in consequence of the water being in. In the 104 east the water is drained, and the men have resumed driving on a lode 2 yards wide, yielding 1 ton of lead ore per fathom, and still looks promising. Two stopes over this level will yield on an average 1¼ ton of lead ore per fm. In the two stopes over the 92 east the lode yields 1¼ ton of lead ore per fathom. In the 80 west, on the south part of the lode, the lode is 1 yard wide, yielding 15 cwts. of ore per fathom. The stope below the 68 east yields 27 cwts. of ore per fathom. The tribute pitches throughout the mine (six in number) are producing on an average 26 cwts. of lead ore per fathom. In the 44, east of new shaft, the lode has become soft and broken up, now containing small spots of ore, but not to value. In the same level west the lode is 1 yard wide, unproductive. The ground in the cross cut, north of New Pool, is favourable for driving.

EAST NEW WHEAL LOVELL.—Chas. Bawden: The lode in the 22, driving west of Bawden's engine-shaft, is 3½ ft. wide, composed of spar, peach, and good stones of tin, altogether a very promising lode; it is letting out a great deal of water, clearly showing we have a large lode before us.

EAST PLYNLIMMON.—John Paull, Dec. 15: The engine-shaft below the adit level has been sunk but very little since last report, the men being engaged in putting in timber, &c., preparatory to sinking deeper. The lode in the bottom is of the character described in reports of late—about 6 feet wide, and full of mundic. The adit level, west of shaft, was suspended at the last pay-day, as agreed upon. The deep adit cross-cut north is still being driven by six men, and is progressing very fairly, but the lode is not yet intersected. There is much water issuing from the end, and we consider we are near the lode.

EAST PHŒNIX.—J. Seccombe, Dec. 9: The 170 fm. level cross-cut to drive north by six men, at 25*l.* per fathom; the ground now in this end is hard granite with veins of capel running through it. I think we shall get free of these veins as we get away from the lode. To drive the 170, west on course of lode, by six men, at 20*l.* per fathom; the lode has been small and poor, but is improving, and now worth 5*l.* per fathom for tin. During the rain we have collared up the trial shaft, and resumed the sinking; the lode in it continues well defined and regular, with a little tin.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, Dec. 15: In the 120 cross-cut north we find an increase of water coming from the bottom of the level. In the 95 east the lode is getting more sparry. The lode in the 85 east is 2½ ft. wide, producing 2 tons per fathom, with good work for tin. The lode in the 75 east is 18 in. wide, with good stones of copper ore, but not to value. The western end of the winze below this level is worth 5 tons of copper ore per fathom. This winze has not yet been drained by the 85. The stopes above this level are worth 3 and 2 tons of ore per fathom. The 65 west of winze, below the 55, will produce 4 tons, and the stopes above 3¼ tons of copper ore per fm.

EAST WHEAL LOVELL.—R. Quentrall, Dec. 14: In sinking the winze immediately below the 70, on the south lode, a great improvement has taken place; the lode for 12 ft. in length is worth 200*l.* per fathom, and upwards. This is very important, as we are driving the 80 west, and shall get under this winze by driving a short distance. On the north lode we are down about 6 fathoms below the 80, and the ground still appears to be dipping eastward. We shall, therefore continue to sink, and commence driving eastward at the 80, where have a splendid course of tin. The other parts of the mine are just the same as for some time past.

EAST WHEAL SETON.—J. Vivian and Son, H. Arthur, Dec. 15: Cartwright's shaft has been sunk 2 fms. 4 ft. 6 in. below the 34, where the lode is 4 feet wide, and has assumed more the character of a tin lode than it has before had, containing tin mixed with copper and mundic, throughout a matrix of chlorite and quartz; it does not, however, yet contain enough mineral to pay for working, and the increase of water renders it expensive and inconvenient for sinking this shaft; we have, therefore, thought it prudent to suspend operations here for the present. We think this the better course, seeing that we are pushing down as rapidly as possible two engine-shafts below the 34 further east, and shall thus be able to open out both our eastern and western ground at the deeper levels in the most effectual and miner-like manner, by which we have not the slightest doubt we shall make valuable discoveries in the most economical manner. We have let the following tribute pitches:—In the back of the 34 west, by four men, at 9s. in 1*l.*; in the back of the 27 west, by four men, at 7s. 6d. in 1*l.*; in the back of the 27 east, by two men, at 10s. in 1*l.*; in the bottom of the 27 west, by two men, at 10s. in 1*l.* Basset's engine-shaft is now 6 fms. below the 34; we have set it to six men and one boy, at 16*l.* 10*s.* per fathom, to complete the shaft to the 44. For appearance of the lode, see the last report. The flat-rod shaft is now 3½ fms. below the 34; we have set it to six men and one boy, at 15*l.* 10*s.* per fathom, to complete the shaft to the 44; the lode presents a good appearance, and is improving with depth, and seeing that we are approaching the junction of the north and south lodes and the elvan, the prospects are certainly encouraging; we have set the 34 to drive east on the south lode, to four men, at 2*l.* 5*s.* per fm., and expect very shortly to reach the junction of the north and south lodes.

EXCELSIOR.—G. Rickard, Dec. 14: We are still progressing favourably with the driving of the deep adit cross-cut level south towards the lodes. The ground is much the same as for some time past, but we have an increased quantity of water coming from the breast of the end.

EXMOUTH.—Richard Trevithick, John Cock, Dec. 12; In the deep adit end the lode still maintains its regular course; the ground is easing, and it is not so jacky as heretofore, but very much more promising for lead than for some time past, and we think we shall soon be able to report it a good lode. The shallow level is not rich, but the ground is more favourable for lead, with several small branches crossing every way; it looks as if about to open on a bunch of ore. We have a good piece of ground before us south, and the prospects are cheering. The tribute pitches throughout the mine are looking well.—Dressing: A full pare have as much as they can do to dress the ore as fast as it is being brought out. We sampled ore, computed, 100 tons blende and 25 tons of lead, on the 8th inst. The level is in good repair; tramways and the machinery in good condition, and working well. We are also pleased to say our water is on the increase, so that we shall soon be able to use greater dispatch in the crushing department, and we hope to increase the sales accordingly.

FLORENCE AND FONKIN.—Wm. Verran, Dec. 15: We are still progressing satisfactorily with the different levels, but have no particular change to remark upon since last report. The stope west of the winze, below the deep adit level, is producing fair quantities of copper ore, and from the dip of the ore we expect a decided improvement in the 35 end very shortly. We shall push this point as fast as possible, for the twofold purpose of getting into the productive ground, and also draining the lode, so as to resume the sinking of the western winze below the deep adit level, where we anticipate great success. In extending south on the lead lode there are indications of good results in that direction; in fact, there is a fair prospect of opening up a good lead mine, which, together with the certainty of having copper and tin in addition, looks well for the future of the mine.

FRANK MILLS.—J. Cornish, F. Cornish, N. Addems, Dec. 14: The lode in the 145 fm, level south is producing a large quantity of sulphurous mundic, but unproductive of lead ore. We have driven about 4 ft. north of cross-cut, in the 130 north end, where we find the lode about 4½ ft. wide, composed of quartz, white iron, and thickly spotted with lead ore—a very kindly lode. We resumed driving the 115 north end yesterday by the side of the lode, in order to get forth under the ore ground now being driven through in the 100, which is only a few fathoms in advance. The lode in the 100 north has recently improved, and is to-day worth 1½ ton of lead ore per fathom. The rise in the 100 fm. level, south from engine-shaft, is without any alteration. We have intersected another branch in the 84 cross-cut west (this, perhaps, is part of the west lode, as we think we are very near it), composed chiefly of spar, with no lead to value; the ground here has become much harder. The 72 rise, north from Taylor's cross-cut, is at present poor. The two stopes in the back of the 45, north from Orchard air-shaft, will yield about ¼ ton of lead ore per fathom respectively. All other stopes throughout the mine are without any change, and the same remark is applicable to the tribute department.

GAWTON COPPER.—George Rowe, George Rowe, jun., Dec. 10: Our shaftmen are progressing very satisfactorily in sinking King's engine-shaft and cutting tip-plat below the 95. The part of the lode carried in the 95 east is 6 ft. wide, producing good stones of ore. The lode in the 82 east is improving in character, yielding 2 tons per fathom. The stoping ground in the back of this level is divided in three sections, in which the lode is yielding 3, 4, and 5 tons of ore per fathom. The south part of the lode stoping in bottom of the 82, west of cross-cut, is worth 8 tons of mundic and ore per fathom. The lode in the 70 east is 6 ft. wide, impregnated with ore, and showing a kindly appearance. The lode in Williams's winze, sinking below the 70, is worth 3 tons of ore per fathom. All other points of operation are without change.

GOGINAN.—Dec. 13: The lode in the 110 east is 5 ft. wide, and improving, now being worth 12 cwts. per fathom. There are three stopes in the back of this level, producing on an average 1 ton of lead ore per fathom. Good progress is being made in sinking the winze below the 100, where the lode is 5 ft. wide, and worth 1 ton of lead ore per fathom. The lode in the three stopes over the 100, east of the rise, varies from 4 to 6 ft. wide, and yields on an average 16 cwts. of lead ore per fathom. The south branch, or part of the lode being driven upon west of incline-plane, at the 60 fm. level, is 15 in. wide, producing good stones of lead ore. The lode in the tribute pitches in the old part of the mine yields on an average 10 cwts. of lead ore per fathom.

GONAMENA.—John Truscott, Dec. 14: In driving the 153 fm. level south on the cross-course the ground is granite, and very favourable. In driving west on Sarah's lode, it is 6 in. wide, yielding occasional stones of copper ore. In driving the 148 or midway level east on Venning's lode, it is 2 ft. wide, yielding 2 tons of ore per fathom. The stope in the back of the 138 fm. level on Venning's lode, is yielding 2 tons of ore per fathom. No. 1 stope in the bottom of the 124 fm. level is yielding 3 tons per fathom; and No. 2 stope is yielding 3 tons per fathom.

GORSEDD AND CELYN LEVEL.—Dec. 15: I was yesterday nearly all day underground, and arranged to run wooden trunks through the fall, which is near Coetia Eithin shaft, so as to let off the water, and I trust that by Saturday evening we shall succeed in draining it off, which will be a great thing, as our progress is rather slow at present, having to wheel the stuff 280 yards through water and sludge to Coetia Gelynen, where, if Coetia Eithin was clear, we could use that shaft for drawing, saving, of course, some time, and when once the water is off we can do twice the work. The clearing, so far as gone, exhibits nice ore, and the tributers are doing fair work with good results. The clearing eastwards from Coetia Gelynen is progressing rapidly, meeting with good stones of ore. The stuff taken out will pay for dressing.—Waen: The lode here is 10 in. wide, composed of hard spar, intermixed with ore and blende. I have set three men to the shaft upon the north and south lode, near Gorsedd, at 4*l.*, contract. I think we shall be able to put tributers here. We are pushing on all matters, underground and surface.

GREAT RETALLACK.—G. R. Odgers, J. Harris, Dec. 15: The adit cross-cut north remains in the elvan, and the men are pushing it on with the utmost speed.

GREAT ROCK.—J. Kemp, Dec. 15: The shaftmen are now down deep enough under the 23 to cut the cistern-plat, &c., and are now engaged in cutting ground for the cistern, which will I hope be completed this week, after which we will get down the shaft with all speed. The lode is much the same as when last reported, producing some nice stones of lead. The rise in the back of the 12 fm. level is producing some good saving work for lead, and from appearances I am expecting good here. The lode in and about the 6 fm. level is much the same as it has been for some time, producing good saving work. There is no other alteration.

GREAT ROYALTON.—Thomas Parkyn, Dec. 14: The weather has changed, so that we are enabled to complete the dressing-floors and dress the tin. We are keeping the stamps at work day and night. We have the two round buddles fully employed, and one frame will be ready to-day to clean the small tin, and I hope to get the other ready in a day or two. I have dialled the ground at the 22 fm. level, and find we have 10 ft. more to drive before we intersect King's lode. I estimate we shall be in the lode by the end of this week; I will instantly advise you when we cut into King's lode. The tin coming from the stamps is looking well.

GREAT SOUTH CHIVERTON.—John Nancarrow, Dec. 14: The engine-shaft is sunk 3 fms. below the 60, where we are now cutting ground for bearers and cistern, and preparing to fix a lift. The 60 is driven 18 fms. west of shaft, and is getting under where we had a strong lode of mundic in the 50; here, too, we have had a rich leader of mundic, with lead and blende, and are daily expecting a good improvement. This end is being driven with all possible speed, and is within 15 fms. of where we had lead in the 50. The 60 is driven 8 fms. east of shaft; the lode is 2 ft. wide, composed of flookan and killas, with occasionally a little prian and quartz. The 40 is now driven 83 fathoms east of engine, or 15 fms. east of Chapman's shaft; here we have had lead ground for 7 fms. in length, and, although not very rich, is much better than it was at the 20, over this place; and if the eastern shoot of lead improves as this has done, which there is good reason to expect, we shall have a good lode when we reach it, which we hope to do in three or four months. There is a rise above this level, under Chapman's shaft, up 3 fms., where the lode contains a little lead, and the men are making good progress. Chapman's shaft is 3 fms. below the 20, and the last 6 ft. has yielded lead to save. There is a pitch working in the 50 at 10*l.* per ton. All our energies are directed to the prosecution of the several points referred to in this report, and we confidently expect valuable improvements within four months from this time.

GREAT SOUTH TOLGUS.—John Rodda, Dec. 15: The lode in the 140 rise over No. 3 cross-cut, west of Lyle's engine-shaft, is worth 10*l.* per fathom for tin. In Tom's pitch, over No. 2 cross-cut, the lode is worth 18*l.* per fathom. The 125, east of Bodilly's cross-cut, on the north part of the lode, is worth 6*l.* per fathom, and looking promising to improve shortly. The stope in the back of this level is producing good stones of copper ore, and worth 10*l.* per fathom for tin. The 125 west of Bodilly's cross-cut, on the south part of the lode, will produce low quality tinstuff. The men are taken from this end and put to rise in the back, where the lode is worth 12*l.* per fathom.

GREAT WESTERN.—Edward Rogers, Edmund Rogers, Dec. 14: Fisher's Lode: Michell's engine-shaft is sunk 4 fms. 5 ft. 6 in. below the 30 fm. level. In the 30, driving west, the lode is 2 feet wide, worth 8*l.* per fathom. In this level, driving east, the lode is 3 ft. wide, worth 7*l.* per fathom. The stope in the back of this level, west of the shaft, is worth 30*l.* per fathom. In the 30, driving east of the flat-rod shaft, the lode is 6 in. wide, worth 3*l.* per fathom, and opening tribute ground.—Middle Lode: In the 30, driving west of Curtis's shaft, the lode is 3 ft. wide, worth 5*l.* per fathom. The stope in the bottom of this level, east of the shaft, is worth 12*l.* per fathom. In the 20, driving west of this shaft, the lode is 3½ feet wide, worth 6*l.* per fathom.—South Lode: In the 10, driving east of Willis's shaft, the lode is 2 ft. wide, worth 3*l.* per fathom. In the adit end, west of this shaft, the lode is 6 in. wide, producing a little tin.

GREAT WHEAL LOVELL.—C. Bawden, Dec. 14: The lode in the 15, driving west, is still very good, being worth 20*l.* per fathom. The 15, driving west, is worth 12*l.* per fathom. We have put two men to sink in the bottom of the level, being anxious to know how it holds down, and I am happy to say the lode improves in value every foot we sink. Although we have only sunk 2 ft., the lode is worth 25*l.* per fathom, but we cannot do anything more before the lode is cut in the shaft on account of water. The ground in the shaft has become easier, which is of great importance; I expect to have the lode in the shaft in about another month, when the sink referred to will be drained.

GWYDYR PARK.—W. Smyth, Dec. 13: At Sutton's shaft, in the 8 west, the lode is about 15 in. big, composed of spar, sulphur, blende, and good stones of lead ore, and is letting out more water than when last reported. The stope in the back of this level still yields about 15 cwts. of lead ore per fathom. There is no change in the bottom of Sutton's shaft since last report, neither has much been done there, as we have been throwing down stuff from the upper workings, and framing it out. There is no particular change in Vuchcslas new adit driving east since last report. We have taken down the lode at Smith's shop end; it is about 10 in. big, composed of spar, sulphur, blende, and good stones of lead ore, and still letting out water freely. I have sent off samples to the different lead buyers.

HAMMETT.—S. Bennetts, Dec. 14: The north lode in the east adit end continues small, yet producing a little tin, and it seems better defined as it gets into the hill. In the south adit north cross-cut there is no change to notice.

HAREWOOD CONSOLS.—T. Nell, Dec. 14: We are getting on with the erection of the steam-engine as fast as possible, and hope to have it completed by the end of next week, when we shall resume the sinking of the new engine-shaft with all speed; and from such a large and promising lode we may expect something very good.

HARWOOD.—W. Vipond, Dec. 8: There is no material change to notice this week in the end going east from the cross-cut on Lock's level. The vein continues to yield about 8 cwts. of ore per fathom, and is let at 56*s.* 6*d.* per fm.

HINGSTON DOWN CONSOLS.—James Richards, Dec. 15: There is no alteration in any part of the mine, with the exception of the deep adit level south, where the ground has become much easier, and fair progress is being made.

HOBBS' HILL.—S. Bennetts, Dec. 14: The water in the deep adit is partly let out, and four men are set to break a portion of the lode from different points to ascertain its value for tin as quickly as possible. The shaft at Tinner's-lane is being sunk below the adit; this shaft is on a cross-course, and is now 8 to 9 ft. below the level, and so far the water is not very much. The north-west adit is for the time suspended.

HOLMBUSH AND KELLY BRAY UNITED.—Thomas Odgers, W. Johns, Dec. 15: We have taken down the lode in the 45 fm. level end, driving east of the old engine-shaft, on the Kelly Bray lode, and find it still improving both in size and quality, and worth about 2½ tons of copper ore per fathom. There is no change since last report in the 45, driving east of old engine-shaft, on the new north lode. The lode in the 35 fm. level end, driving east of the footway shaft, on the new north lode, is increasing in size, but at present not to value; we are soon expecting a change in this end. We could not sample our copper ore this month, as we have been frozen up; and having about 30 tons of hutch work, we could not bruise it abroad to take the sample. We shall sample our two months' ore next month. No change in the Holmbush part of the mine.

KING.—W. Knott, Dec. 14: We are making fair progress in clearing and securing the adit level. It will not be wise to put on any men stoping in the back of this level for three or four weeks, by which time I hope we shall get through the present deposit of rubbish, and let down the water pooled back to the east; and additional men at this point will impede the progress of the men clearing the level.

KING ARTHUR.—S. Tucker, Dec. 14: I am pleased to report a great improvement in the end of the adit. During the past week we have had some very nice lead in the lode, which has increased every day. At present the lode is well defined, about 2½ ft. wide, composed of a large quantity of gossan, with spots of blende in the spar, and a leader of lead full 6 in. wide. I intend sending up to-morrow by rail a box of the ore; it is certainly the best I have ever seen in the mine. With our present prospect I should not advise sinking, for every fathom we now drive will, as you are aware, add much to our backs for stoping, as the ore is making both up and down. If those interested in mining could only see the nice lumps of solid lead we have in the end they would not for a moment hesitate to join in proving this ground with spirit.

LLYWERNOG.—J. Davis, Dec. 14: We have put in the cistern at the 50, placed the lift therein, and the men are now dividing and putting in the ladders in that stage. I have reduced the number of shaftmen from nine to six, and have set the 50, east of engine-shaft, to drive by four men, at 140*s.* per fathom. We are going on as fast as we can with surface work.

MINERAL BOTTOM.—R. Nancarrow, R. R. Nancarrow, Dec. 15: The lode in the 35 end, south of new shaft, is 2½ ft. wide, composed chiefly of quartz and mundic, and a little lead occasionally. We are raising some very good lead work from the stopes at the 25, and the dressing department is looking well for the next sampling.

NANTEOS CONSOLS.—R. Williams, Dec. 14: At Bwich Gwyn, yesterday, I carefully dialled the 30 and 40 fathom levels, east of shaft, for the purpose of proving what length of ore ground may be expected on the south lode in the 40, east of the present end, and I find there are 44 fms. of unexplored ground east, to a point where the south lode joins what is called the caunter lode, in the 30. This distance (44 fms.) on the south lode has in former times been productive of good ore, as is proved by the large excavations on its course, along and above the 30 fm. level; and, taking these circumstances as my guide, I have no doubt of good results attending the development of the 40, under the point alluded to. The lode in the 40 end east is of a most promising character, composed of most congenial matter, associated with some beautiful stones of pure lead, and I most strongly urge the driving of this end with all possible dispatch. In the 30 we are laying down the tramway and clearing the level, with the object of clearing away cross-cut to the south lode, hoping thus to underwater the workings on said lode, and to start a winze towards the 40, in the heart of the ore ground; and if, as I strongly hope, we find the lode good here we shall soon be in a good position. I am very sanguine of success on this south lode. While in this part of the mine, where there is far less blende and sulphur, I am very hopeful of the north, or Penrhiw lode; we are driving a cross-cut to see it, east of the caunter lode, and have in all probability only a few feet further to drive; the ground in which we are driving is strongly spotted with lead ore. At Penrhiw there is nothing new to report.

NEW CROW HILL.—T. Trelease, A. Kent, Dec. 13: On Saturday the 100 fm. level cross-cut measured for last month's driving 4 fms. 3 ft., and was re-set at 80*s.* per fathom, stent 3 fathoms. We have just cut into a change of ground, which we think is the north part of the lode; we have cut through a part a little over 1 ft. wide, composed of flookan, white prian, spar, and mundic; beyond this it is decomposed killas. We think the main part of the lode is still further south, as we have cut no extra water in the part referred to. We think it advisible to push on the cross-cut until we are satisfied that it is quite through the lode; this can be done speedily through the kind of ground we have at present.—North Lode: At this point our measuring for last month's driving was 4 fms. 5 ft. 5 in., and was re-set at 45*s.* per fathom, stent 3 fathoms. We are still pushing on this at a good rate, but have no change to report.

NEW DALE.—R. Ninnes, Dec. 13: There has not been quite as much done in the 75 this week, as we have had to do some repairs in the shaft, and as soon as the pumping is stopped the water hinders the men from working in this level, but these are the men that do the shaft work. We have sunk in the winze 3 feet, cut in the rise 2 ft. 6 in., and opened in Metal winze east and west 12 feet. We have driven at Holly Bank 7 feet; here we have had spots of lead, and the ground appears likely for lead. The vein ground in Metal winze is now about 21 feet wide. I should think we have broken about 10 tons of lead, and the same quantity of blende (Narrow Dale). Since we have had the timber and things ready the weather has been so rough, and the quantity of snow so great, that it was not fit to do any surface work, and it has been delayed through that reason; in fact, the weather has been so bad that no surface work could be done, and we still have a great quantity of snow, although it is decreasing. Johnson's lode is being worked on tribute, but from the difficult road, wheeling away the ore, &c., I have been obliged to give 3*s.* 4*d.* to get it worked, but even this for the present is better than on tutwork.

NEW GREAT CONSOLS.—R. Pryor, Thos. Bennetts, H. Tregoning, Dec. 12: Saturday last being our pay and setting the following bargains were re-taken for one month:—To stope No. 1 stope in the back of the 64, by six men, at 6*s.* per ton of tinstuff. No. 2 stope, in the back of ditto, by four men, at 5*s.* per ton. No. 3 stope, in the back of ditto, by six men, at 4*s.* per ton of tinstuff. To stope No. 4 stope, in the back of the 40, by four men, at 4*s.* 6*d.* per ton. No. 5 stope, in the back of the 20, by six men, at 4*s.* per ton. The winze to sink below the 10, west of Rickard's shaft, by six men, at 7*l.* per ton; the lode here is producing saving work for tin. The value of the above bargains continues without much change to notice. The surface operations have been for the last few days very much retarded in consequence of the severe weather and fall of snow, but we are glad to say that it is now improving, and should it continue so as to allow us to put up some more buddles and frames, in order to dress the after stuff, together with completing No. 4 calciner, which we hope will be set to work by the end of this week, we shall then be in a position to increase our returns of tin very considerably. Our pay and setting went off very satisfactorily.

NEW WHEAL LOVELL.—Joseph Prisk, Dec. 15: The lode in the new air-shaft, sinking below the 30, continues to look well; it is now 4 ft. wide, worth full 30*l.* per fathom. This shaft has been sunk from surface to the 30 fm. level and 3 fms. below in the last four months, 23 fms. of which has been through a lode worth on an average 15*l.* per fathom, and has opened up a valuable section of tin ground. The lode in the 20 fm. level, west of new air-shaft, is 2 ft. wide, worth 9*l.* per fathom, driving at 3*l.* per fathom. The lode in the rise in the back of the 40, against the new air-shaft, is worth 30*l.* per fathom. The 50 end east continues to look fully as well as last week; the lode is 3 feet wide, worth 25*l.* per fathom. Taking the mine on the whole, we never looked better. We are getting on well with our next parcel of tin.

NEW WHEAL TOWAN.—Richard Pryor, Dec. 14: Friday last being our pay and setting, the following bargains were set:—The adit level to drive west on the tin lode by two men, at 7*l.* per fathom; the lode is large, and producing tinstuff which would pay well to be returned on the mine. The adit level to drive west on the copper lode by two men, at 7*l.* 5*s.* per fathom; lode at this time a little disordered by a branch, which I am induced to think is a part of the cross-course.

NEW VICTORIA (Ashburton).—Wm. George, jun., Dec. 10: We have communicated the winze in the bottom of 76 with the 86, which has decidedly improved the ventilation of the latter level. In the 86 east the lode has again slightly improved for ore, and the killas on the footwall, or north side, of the lode has become somewhat lighter. The men continue to make fair progress in the 96 cross-cut.

NORTH CROFTY.—J. Vivian and Son, W. Thomas, Dec. 15: The lode in the 220, west of engine-shaft, is composed of flookan and spar. Petherick's shaft is now down 8 fms. 3 ft. below the 208. The lode in the 208, west of Petherick's shaft, is very large, and worth 20*l.* per fathom. The lode in the winze sinking under the 196 west is worth 15*l.* per fathom. The lode in the 196 end west is worth 8*l.* per fathom. The lode in a pitch under the 183, east of Praed's shaft, on the south part, continues to look very well, and is worth 25*l.* per fathom; we set it on Saturday last, at a tribute of 4*s.* in 1*l.* The tribute department, on the whole, is improved.

NORTH POOL.—Dec. 15: Ballarat Shaft: The cutting of the plat at the 52 will be completed to-day, and shall commence sinking to-morrow. In the 40 east we have just passed through a cross flookan, beyond which there is a considerable change in the nature of the ground, the clay-slate being of a lighter colour and more favourable character for the production of copper ore. We trust, therefore, soon to report a discovery. We shall have the 40 tons of tinstone sampled on Monday, and obtain offers for the purchase of same.

NORTH TANKERVILLE.—R. Waters, Dec. 15: The engine-shaft is sunk 10 fms. from surface, and will probably be into the Great Snailbeach lode in about 10 fms. deeper; sinking at the rate of 2 fms. per month at present, but as we near the lode the ground will most likely get softer. Some tributers are working on the back of the lode directly opposite the shaft, and are in a great lode, composed of carbonate of lime, barytes, and solid lumps of lead ore, some of the latter weighing 8 to 10 lbs. This is a very promising point, and likely to lead to a good run of ore in depth. What you say about engine-house, fly-wheel, loading, &c., shall have due attention.

OLD GUNNISLAKE.—F. Phillips, Dec. 14: New Shaft: We have completed taking down the piece of ground I spoke of last week, and are now taking down the lode for the length of shaft. It is of the same character as where cut through a little further east, and as far as seen of just the same value. We shall commence sinking to prove its value in depth. There is no change in the cross-cut since last report, but I think the lode will prove to be a south underlie rather than north, which accounts for the distance we have to drive.

PENHALE UNITED.—Richard Pryor, Henry Bennetts, Jos. Pryor, Dec. 14: The tutwork bargains throughout the mine are without much alteration to notice since our last report, with the exception of the lode in the 80 end, north of Hall's shaft, which is at this time a little disordered, but we think it only temporary, as there is not a doubt of us having large deposits of lead in and upon the elvan course.

PENHALE WHEAL VOR.—Wm. H. Martin, Dec. 14: The engine shaft men will resume the sinking below the 140 to-morrow, and when we get down 9 ft. we shall then cut cistern plat, and fix bearer, cistern, and lift. In the 130 north cross-cut there is a little change in the ground, which is becoming more jointy, and I expect in the next 12 ft. to cut the lode.

PENHALLS.—S. Bennetts, W. Higgins, Dec. 10: The 60, west of the engine-shaft, continues worth 4*l.* per fathom. The stope on the north lode, in the back of the 50 west, is worth 8*l.* per fm.; and that in the back of the 45, near the gossan, for copper 10*l.* per fathom. The winze below the 44, on the Pink lode, is worth 8*l.* per fathom. The Penhalls lode, in the east adit end, is worth 6*l.* per fathom, and the stope above 8*l.* per fathom. The 50 and 60 fm. levels, west of Glynn's shaft, are the same as last reported, no lode having been broken since. At Sarah's shaft, the 14 fm. level east is worth 8*l.* per fathom, and the 17 fm. level west 7*l.* per fathom.

PENRHYN.—Wm. Johns, Mark Whitford, Dec. 13: The water is again forked out about 2 fms. below the 30; the men are now engaged in taking down the lode, which is worth from 7 to 8 cwts. of lead ore per fathom. Seeing this, it augurs well for to find a productive lode when the bottom of the mine is reached. The stope in back of the 20 is worth 8 cwts. of lead ore per fathom. The clearing of the adit level is still going on; this is a very important thing, in order to take up the surface water. In the adit level south, on the north and south lode, the leady part is producing good stones of ore. The some remarks are applicable to the west end, driving on a branch. The lode in the winze sinking below this level is very regular, but not producing sufficient ore to value. The lode in the cliff driving west is presenting an improved appearance, containing good stones of lead ores, mixed up with copper ore; the latter is a good feature, we consider, to be associated with the lode. The whim-engine, if the weather permit, will be in readiness to work by the end of the coming week. Taking the weather into consideration, we cannot complain of our surface work.

PERRAN CONSOLS.—James Nance, Dec. 12: Flat-rod Shaft: The shaftmen will soon finish their bargain, and the shaft be set to sink with all speed for another level. In the 30, driving east, no change has taken place during the week; the lode presents a similar appearance as when last reported on. The 30, driving west, is getting near the cross-course; the lode is improved in size, being 2 ft. wide, composed principally of peach, and worth for tin full 4*l.* per fathom. We shall shortly be in a position to start a new stope in back of this level. The lode in the 20, east of shaft, is 2 ft. wide, worth 8*l.* per fathom. In the stope in back of this level the lode is looking more kindly, and we hope ere long to see a decided change for the better; it is now worth 4*l.* per fathom. In the 20, driving west, we are going on by the side of the lode for speed; the portion carried is worth from 2*l.* to 3*l.* per fathom. In No. 1 stope, in back of this, the lode is 6 ft. wide, worth 8*l.* per fathom. In No. 2, stoping behind the end, the lode is 10 ft. wide, worth 6*l.* per fathom. Nowhere in the mine has the lode been seen so large and masterly as at this level, west from cross-course; every fathom of it opened in this direction is increasing in width, and present indications of continuance. The adit in a few days will be cleared to the flat rod shaft, and the men put to secure down the western shaft to the rise as quickly as possible.—Lead Lode: In the 20 fm. level driving not much change has taken place; the lode is 1 ft. wide, producing occasional stones of lead.

PLYNLIMMON.—J. Paull, Dec. 15: Throughout the mine generally there is no change to notice since last report, excepting at the point over the 12 east, where we have started to rise against the winze below the adit; the lode is worth 2 tons of lead ore per fathom. A good deal of water is coming from the lode here, and we expect daily to let down more, so that we can sink and rise, and quickly communicate, when we shall be able to put on a lot of men to stope away the ore.

PRINCE OF WALES.—J. Gifford, Wm. Gifford, Dec. 13: Watson's shaft is progressing very favourably, and we hope to be down to the 90 in the early part of next month. In the 77 east the south part of the lode in which we are driving is full 5 ft. wide, yielding saving work for tin and copper, worth for the former 12*l.* per fathom, and for the latter 5*l.* per fathom. In the 77 west the lode is 3 ft. wide, worth 6*l.* per fathom. In the 77 cross-cut there is no change. The stope in the back of the 77 east is worth 8*l.* per fathom. The two stopes in the back of the 65 east are worth on an average 12*l.* per fathom each. The winze in the 65 west is worth 15*l.* per fathom. The stope in the back of the 65 west is worth 10*l.* per fathom. The stope in the back of the 55 east is worth 8*l.* per fathom. The stope in the back of the 45 west is worth 6*l.* per fathom.

QUEEN.—W. Knott, Dec. 14: Since my last report we have completed the capstan, and fixed the plunger-lift from the 20 to surface, which is about 45 fms. The men are now engaged fixing the plunger-pole and main-rods, and if we can get the necessary ironwork we require the shaft-work will be all in working order by Saturday evening next, but from the press of business at the foundry we have had a little let, otherwise we should have been in readiness sooner. In the 30, east of Cook's shaft, the lode in the end when last taken down was not quite so large as heretofore; the men are again taking down the lode in this end, and the same is widening again, worth 7*l.* per fathom for copper and mundic. The lode in this level, west of shaft, is worth 8*l.* per fathom. The stope in the back of this level is worth 6*l.* per fathom.—Silver Department: We have holed the level east from Bennett's western shaft to the level west of Paull's winze, in which we have broken since my last about 2 tons of low-class

silver ore, which is put aside for the amalgamation process. The stope in the back of this level has yielded since my last report 10 bags of silver ore, one of good quality, and nine of moderate quality. We are using every effort to set the engine in motion the early part of the coming week.

REDMOOR.—F. Bennetts, Dec. 15: The lode in the 25 west is worth 4*l.* 10s. per fathom. The lode in the stope in the bottom of the 25, east of the footway-shaft, is worth 5*l.* per fathom. The lode in No. 1 stope, in the back of the 25, is worth 4*l.* per fathom. The lode in No. 2 stope is worth 6*l.* per fathom. The lode in No. 3 stope is worth 6*l.* per fathom.

REPERRY.—Thos. Parkyn, Dec. 12: The north lode, driving east at the 25, has very much improved during the last week; it is now 2 ft. wide, containing rich work for tin. The water has not yet gone from the winze sinking from the 15 fathom level; the lode is 4 feet wide, and the east end in the 25 fm. level is home to the winze, or under it, within 3 fathoms, and, therefore, I am of the opinion that we have not as yet got all the lode at the 25; and we shall cross-cut north to ascertain this. The lode going west is 1 ft. wide, containing tin, but not rich. We have not cut the south lode yet in the south cross-cut; the ground has been hard, but it is now better for driving. The stamps are working day and night. I find mundic in the lode at the 25 more than at the 15; and I shall at once erect a little house to burn the mundic out of the tin in a few days, when I shall be able to report to you about the cutting of the south lode; and I feel confident we shall have a great discovery at the 25, on the north lode. The engine is working well, and all things going on very well. I will telegram the moment we cut the south lode, or the great improvement that I am expecting takes place in the north lode.

RHYDTALOG.—J. Dunkin, Dec. 14: I have no material alteration to report this week. We continue to make good progress in sinking the engine-shaft; the lode maintains its masterly character, producing 1¾ ton of silver-lead ore per fathom. The level driving north upon the north and south lode to intersect the parallel east and west lode is being pushed on with all speed. I am daily expecting an improvement in the 15, driving west upon the east and west lode. The weather continues unfavourable for surface work.

ROCHE CONSOLS.—Thomas Parkyn, Dec. 14: Since last week the masons have made capital progress in building the engine-house, &c. The weather now is soft, and good for surface operations. We have had four wagons carrying stone every day, so that the masons have been kept fully supplied with stone, lime, and sand. All surface operations are being pushed forward.

SOUTH CONDURROW.—J. Vivian and Son, H. Abraham, Dec. 14: In the 82 fm. level, west of King's shaft, there is no change since our last report. In the 71 fm. level west we are carrying about 3½ ft. of the lode, which is worth about 25*l.* per fathom. The rise in the back of the 71 fm. level, east of cross-cut, is worth about 10*l.* per fathom. In the 61 fm. level west the lode is 2 ft. wide, and worth about 7*l.* 10s. per fathom. In the 61 fm. level east, on the north branches of the tin lode, we are carrying a width of 10 ft., which is worth about 80*l.* per fathom. In the 52 fm. level north we are cutting through the north part of the tin lode, which we have intersected to the extent of about 6 ft., and samples taken from it show a produce of about 22 lbs. of black tin per ton. In the 40 fm. level east, on No. 1 north branch, the lode is 1½ ft. wide, and worth about 10*l.* per fathom. In the 20 fm. level west, on Wood's lode, there is no change worthy of remark since the last report. In the 10 fm. level, east of Fraser's shaft, we have not yet cut through the lode. In the deep adit level, east of Fraser's shaft, the lode is 3½ ft. wide, and worth about 15*l.* per fathom. There is nothing new to remark upon in other parts of the mine.

SOUTH DARREN.—J. Boundy, W. H. Boundy. Dec. 10: Since our report of Nov. 28, for the meeting, the operations then reported on have been continued, but without any alteration at any point to notice. In consequence of the frost and snow very little has been done towards the dressing for the past few days. The machinery is in good working order.

SOUTH GREAT WORK.—S. J. Reed, Dec. 14: In the adit end east Great Work lode is 4 feet wide, and worth for tin 4*l.* per fathom. The cross-cut south from Colenso shaft has been driven 4 fms. towards the above-named lode, this is at a point 90 fms. further east. The shaftmen are making good progress in sinking the new engine-shaft, which will be carried down perpendicularly as deep as the adit level.

SOUTH MERLLYN.—Dec. 15: Vicker's Shaft: We shall not commence to sink this at present, as the water might prove strong at this time. I have set the driving of the 100 yards level south from the bottom of sump to four men, at 50s. per yard. The lode here is 3 ft. wide, composed of spar, clay, and good stones of lead ore. Two men to stope below the same level south, at 30s. per yard. The lode at this point is 2 ft. wide, composed of spar and lead, and will produce of the latter 6 cwts. to the fathom. Two men to continue the cross-cut west of the 80 yards level north from this shaft, to cut the new lode, at 5*l.* per yard. The four men who were driving the 90 yards level south from bottom of sump (where the lode will produce about 6 cwts. of lead to the fathom) I have set to sink the sump at 3*l.* 10s. per yard, as I am anxious to prove the lode at this place deeper.—Dressing Floors: The 28 tons of lead sold at the Ticketing is ready for delivery to the smelter, and I am glad to say we have a fair quantity of clean ore in stock towards another parcel.

ST. JUST AMALGAMATED.—Richard Pryor, T. Gundry, N. Bartle, Dec. 13: Saveall's Lode: The lode in the 100, driving west of engine-shaft, is 3 ft. wide, and worth 4*l.* per fathom, and likely to improve. In the 90, driving west of ditto, the lode is worth 7*l.* per fathom, with a good appearance. The lode in the winze sinking below the 76, west of engine-shaft, is 4 feet wide, and worth 4*l.* per fathom. The lode in the 50, driving east of shaft, is 2 ft. wide, and worth 4*l.* per fathom. The lode in the 62, driving east of cross-cut, on Wheal Bozands lode, is yielding saving work for tin. The lode in the 20, driving east of shaft, on the north lode, is worth 3*l.* per fathom.—Owl Lode: The lode in the 40, driving north of Reddipper shaft, is worth 8*l.* per fathom. The lode in the 20, driving west of cross-cut, on Wheal Dower lode, is worth 6*l.* per fathom. In this level, driving east of shaft, the lode is worth 4*l.* per fathom. The lode in the 10, driving east of ditto, is worth 4*l.* per fathom. There is no other change calling for remark.

TAMAR VALLEY.—J. Goldsworthy, Dec. 15: In the 37, south of Weston's engine-shaft, the driving is being pushed on by the side of the lode, and the indications are exceedingly favourable for the production of silver-lead at this point; a speedy improvement may shortly be expected. In the 27, south of Weston's engine-shaft, the stratum is undergoing a favourable change for the production of mineral. In the 27 south the cutting of the winze-plat and the shifting of the tramroad is progressing satisfactorily; this work will be completed in a few days, when the clearing through the old men's attle will be forced on with all possible speed. We look forward to meeting with good results as soon as we have reached the bottom of the old workings. The tribute pitches are without change to notice since last reported on. The machinery and pitwork in good condition.

TANKERVILLE.—A. Waters, Dec. 15: The great lode in the 102, west of Watson's shaft, is without material change since last reported on. The least that can be said of it is that it continues to display a magnificent course of lead ore. There is a cavity in the bottom of the level, the depth of which we cannot measure, but around which, especially on the hanging side, the ore is very solid, some of it highly crystallised, and shows such strength of character as to warrant still greater success for the mine as we go down. Brown's stope, in the back of the 92, east of Watson's, is also in a course of lead of great width and richness. Roberts's stope, in the same level, west of winze, is getting into the great run of ore in the first-named stope. Roger's stope, in the same level, east of winze, is also in a fine course of ore. Mumford's winze, below the 92, under Brown's shaft, is down 3½ fathoms, in the bottom of which there is a rich lode, a very decided improvement having regularly shown itself in depth since we started from the level. The 74, west of cross-cut, is now in a very strong lode, which is yielding carbonate of lime and good stones of lead ore, and improving as the end advances. No change to notice in the winze below the 42. The rise in the 35 is opening a paying lode. The adit cross cut being completed the men have commenced driving the 22 west towards the new shaft. There is now a ladder-way in Watson's shaft from the surface to the adit, and as soon as the ground be properly squared down, and gutterway made to carry off the surface water, the men will commence sinking below that level. The masons are erecting the buildings as fast as the weather permits. All our engines are doing good duty. We sold yesterday 75 tons of lead ore to the Pontesbury Smelting Company.

TAN-YR-ALLT.—Wm. Johns, W. T. Harris, Dec. 14: We have cut a plat at the 24 fm. level, with other necessary work, and shall now at once resume the sinking of the engine-shaft below this level; every effort will be made to get it down to a deeper level as quickly as possible, when there are great chances of meeting with a good lead of ore. In the 24 fm. level west the lode has made a splice; this we consider a good feature, believing that when it forms it regular size again an improvement will take place in the lode. The 24 fm. level east has drained the winze mentioned on our former report. We shall now place a pare of men to sink the same; the lode is over 4 ft. wide, containing fine stones of ore. We cannot but again repeat there is a very fine looking lode in the 14 fm. level east. No. 1 stope is worth 1½ ton per fathom. No. 2 stope is worth 1 ton per fathom.

TERRAS (Tin).—M. Rickard, Dec. 14: The 20 east, on Edwards's lode, is about 3 ft. 6 in. wide, producing splendid work for tin; the leader, or more tinny portion of the lode, is about 1 ft. wide, yielding some of the richest stuff that I have ever seen in this part of the neighbourhood. The stope in the back of the 20, on Edwards's lode, is producing good work for tin, and from its character and general appearance we calculate upon having highly satisfactory results. The western shaft, on Edwards's lode, is now cleared up 16 fathoms below the surface, and no less than three levels have been met with at this depth, the whole of which have been extensively wrought on, and we have been anticipated by the old men or former workers, they having worked down to the water-line for some considerable extent in length. The arches and portions of ground left are satisfactory evidences of the nature and properties of the lode; this, together with our present discovery in the 20 east, places the matter beyond doubt, and very large quantities of rich tinstuff can be raised directly the proper and necessary machinery be put up. Our present object is to urge on towards the large cross-course or elvan, and on which we are now operating. We calculate to have rich deposits of tin at the point of contact; this has been the case under similar circumstances, and is a chief characteristic of the neighbourhood, and to a practical certainty it will be so in the present instant. The deep level is being pushed on as fast as possible, and when completed will enable us to supply the stamps with greater regularity and at a much cheaper rate. The patent stone-crusher is a perfect success, and in every way adapted for the class of stuff that we have to reduce, or, in fact, for any stuff requiring manual labour to reduce it, and will prove a blessing to all mines where the reduction of the stuff for the stamps forms an important item in the expenditure. Our surface operations are being pushed on as fast as circumstances will admit, and when these are completed, and no time will be lost in their accomplishment, our surface expenditure will be considerably reduced, and the get of tin largely increased.

TREREW.—Dec. 13: On Friday last the 20 was communicated from footway to Moor shaft. The lode has been from 2 ft. to 3 ft. wide. In all the drivage there has been several kibbles of pretty good work drawn, but not enough to pay. We have set the 32 to drive at 1*l.* 5s. per fathom; there is a large stream of water flowing from the bottom of the end, and the lode continues poor. We have put a pare to sink a winze under the 20, about 25 fms. above the 32 end. They commence to sink to-morrow under the place where we had a little lead.

VAN CONSOLS.—T. Corfield, Dec. 15: The lode in the 30 east is still without change to report. At Gundry's shaft sinking is progressing very well. In the deep adit level we have got into a side level driven on the north part of the lode, and in hard ground; it is full of stuff, but, as it requires no timbering, we can advance east with much greater expedition than on the soft parts of the lode.

VAUGHAN.—Dec. 13: In the deep adit level east the lode is large, but unproductive. In the cross-cut south of deep adit the ground is chiefly composed of a light clay-slate, spar, and branches of carbonate of lime, containing occasionally spots of sulphur and copper. The lode in the deep adit level east at Fronfeirig is 3 ft. wide, composed of a dark clay-slate, spar, carbonate of lime, and flookan, with occasional spots of copper and lead ore.

VIRTUOUS LADY.—H. Horswell, Dec. 13: The new shaft is down 7 fms., and is set to sink by six men, 3 fms. stent, at 10*l.* per fathom; the ground is tolerably favourable for progress. The cross-cut to drive south of Screen shaft, by four men, stent 2 fms. or cut the lode, at 8*l.* per fathom, this price including wheeling the stuff; the ground is congenial for mineral. To drive west of Screen shaft, by three men, stent the month, at 5*l.* per fathom; the lode is producing good saving work, of good quality copper ore. A piece of lode to take down in the south adit, by four men, per bargain of 5*l.*; this piece of lode is about 2 ft. wide, composed of gossan and rich yellow ore. A pitch on the middle branch to two men, for one or two months, at 12s. in 1*l.* for tin, at a standard of 60*l.* The carpenters are getting on as fast as possible with the machinery.

WEST BASSET.—G. Lightly, Dec. 14: The 84, west of Carnkie shaft, is worth 12*l.* per fathom for tin; price for driving, 4*l.* 10s. All other points unaltered.

WEST CARADON.—N. Richards, Dec. 13: Marina's Shaft: Allen's lode, at the 55, both east and west of cross-course, is at present unproductive, being disordered by crossing heads; this we regard as only temporary. The winze sinking below the 42, east of cross-course, will yield 1 ton per fathom. In the same level, driving east of cross-course, the lode is improved, now worth full 2 tons per fathom. The winze sinking below this level, west of cross-course, will produce 3½ tons per fathom. Clymo's lode, in the shaft sinking below the 55, although not quite so large, is better defined, now carrying a regular wall, and will produce 1 ton of copper ore per fathom. In the 42 cross-cut south we have passed a branch seen in the cutting at surface, which is letting out pretty much water; we do not intend to open much on this branch just now, as we want to hasten on towards Jope's lode. We cannot get on with our surface operations as fast as we wish, owing to the severity of the weather.

WEST GODOLPHIN.—J. Pope, jun., Dec. 14: South Lode: Lloyd's shaftmen are making good progress in cutting down the shaft below the deep adit level; the lode in the shaft is 15 in. wide, worth about 9*l.* per fathom for the length cutting down (9 feet). I have put a pare of men to secure Thomas's shaft, in order to get this part of the mine cleared up as fast as possible.—Caunter Lode: I have great pleasure in saying that the lode in the 20 fm. level, driving south-east and north-west of Pressure shaft, is equal in value to any former period, worth in the aggregate 40*l.* per fathom. I would here state that our workings in the 20 fm. level, with the exception of 2 or 3 ft., is under the slide, whereas at and above the 10 fathom level the lode was poor under the slide, which was the reason of the shaft being turned in a northerly direction to follow the dip of the tin, seeing that we have opened in the 20 fm. level, and under the slide, 7 fms., in a lode worth 20*l.* per fathom for that length, and the lode in the present end worth 20*l.* per fathom, also worth 20*l.* per fathom in the level over the slide. I think the future of this mine looks well. In the 10 fm. level, driving north-west of Pressure shaft, the lode is 6 in. wide, precisely the same in character as the lode in the 20 fm. level, opening tribute ground.—South Hope Lode: The lode in the deep adit level, driving east of the caunter, is 1 ft. wide, saving work for tin; I am expecting a good improvement here daily.—Hope Lode: The lode in the deep adit level, driving east of Salt's shaft, is 6 in. wide, poor. The tribute pitches are without change to notice.

WEST GREAT WORK.—S. J. Reed, Dec. 14: The great north lode in the 50, west of the flat-rod shaft, is 2 ft. wide, having a better underlie, containing good stones of tin, and, judging from the dip of tin ground in the level above, we have from 10 to 12 fms. to drive to reach it. The 110 west is opening tribute ground. In the 3, west of Harvey's shaft, the lode is 2½ ft. wide, worth 4*l.* per fathom. In the winze sinking below the 20 good progress is being made; this will be communicated with the 30 in a few days, and a piece of tribute ground opened out. In the adit west of the flat-rod shaft the lode is worth 10*l.* to 12*l.* per fathom. At the western flat-rod shaft, in the cross-cut north in the 20, we have cut a branch 4 in. wide, containing tin; the cross-cut, however, will be continued to intersect the lode. In the 10, driving west of shaft, the Trescow Moor lode is 1 ft. wide, producing tinstuff for the stamps. At the adit, driving east on old lode, good stones of tin are being broken, and the indications again more favourable. The breaking of the balance-bob has caused some little delay; this, however, has been repaired, and the machinery throughout is working well.

WEST PRINCE OF WALES.—John Gifford: The lode intersected in the cross-cut at the 60 fm. level (or bottom of the mine) is cut into 6 ft., but not through it, and opened on about 3 fms. The western end is composed of capel, quartz, peach, and a small portion of tin, but not to value—yet a promising end. The lode in the eastern end, in the last 3 ft. driven, has much improved, by a small branch in the middle of it, 4 in. wide, good work, the lode altogether being worth 11*l.* per fathom for tin, and promising further improvement; this is, in my opinion, the western end of the shoot of tin worked on in the bottom of the adit; if so, it is expanding in length going down, or dipping west very fast.

WEST PRINCE OF WALES.—J. Gifford, Dec. 13: I hope to get the engine to work this evening, and will do my best to get the water forked as fast as I possibly can. There is sufficient water-power to work 24 heads of stamps, on an average, throughout the year, and the character of the lode, so far as seen, I consider is all that can be expected for the production of large quantities of tin-stuff, which would require but little burning. But before you determine to work on a large scale, I would advise the water being forked out of the mine, and the same inspected by an independent competent tin miner.

WEST JEWELL.—John Mayne, Dec. 15: The water is in fork 15 feet below the deep adit level, and the men are engaged cutting bearer-holes to fix the cistern. There are three pairs of men clearing and securing the deep adit level east of Green's shaft and east of Tregoning's shaft, and we think we shall be able to set more pitches at this level on our next setting-day. The men are progressing favourably in driving the cross-cut to cut the south lode. The 28 fm. level, driving west of Freeman's shaft, the lode is not quite so large, worth 6*l.* per fathom. In the 17, driving west of Freeman's shaft, the lode is worth 8*l.* per fathom. The lode in the winze is much the same as it was last week. The tribute pitches, on the whole, are looking much as usual, and producing the same quantities of tin. The water stamps are working well, and I hope we shall have a good parcel of tin to sell by the end of the year.

WEST MARIA AND FORTESCUE CONSOLS.—Wm. Skewis, Jas. Donnal, Dec. 14: In Willesford's shaft the lode is about 2 ft. wide, and at present poor; it is, however, taking a more perpendicular dip, which has in many cases made a very favourable change; the ground is good for sinking, and the progress now satisfactory. The lode in the 71 east has improved, and now worth 25*l.* per fathom, with good prospects for a still further improvement. The lode in No. 1 stope, in back of this level, is worth 12*l.*; and in No. 2, 30*l.* per fathom. No change of importance in this level, west of shaft. The lode in the 60 east is 3 ft. wide, yielding saving work. In the stope in the back of this level the lode is worth 12*l.* per fathom. No lode has been taken down in any of the other bargains since last report, consequently no change.

WEST STIPERSTONES.—R. Waters, Dec. 15: The new engine-shaft continues to go down in a rock most congenial for the production of lead ore, now down 6 fathoms below adit, and sinking by nine men, at the rate of 3 fathoms a month. There is a branch or lode in the present bottom dipping towards the main lode, and from the large cavity therein we feel persuaded when the shaft reaches the said main lode a productive mine will show itself. The adit south is driven from the shaft about 60 fathoms, and is now crossing a country rock that is letting out large quantities of water. We are looking every day for a discovery across our track, there being several lodes ahead. The machinery is working well.

WEST TANKERVILLE.—A. Waters, Dec. 15: Wood Vein: The shaftmen have cut cistern-plat put in bearers and cistern, and fixed an 8-inch lift from the 48 to the 28 fathom level. They are now putting down another length of main-rods, and preparing to pump below the 48. This work will be completed by to-morrow night. The stopes in back of the last-named level, north of the shaft, are yielding their usual quantities of lead ore. The cross-cut in the 73, south of engine-shaft, being driven east across the lode, has developed over 10 ft. in width of carbonate of lime, and is now into a good mixture of lead ore, which looks like the commencement of a good run of productive ground. We shall uncover and see more of the lode in the course of a few days.—California: The engine-shaft is 6½ fathoms below the upper adit, and still in rather hard ground; the lode at present is 2 ft. wide, producing good stones of lead ore. We have to sink about 2 fathoms to be deep enough for a cross-cut to the middle adit. The winze below the upper level is down 9 ft., which is the bottom of the old workings: the lode is from 4 to 5 ft. wide, and worth 2½ to 3 tons of lead ore per fathom.—North Boundary Lode: The adit south towards the new shaft progresses favourably; there is a nice-looking rib of carbonate of lime and lead ore in the present end, and which is likely to improve in value as we go forward. The masons are going on with the winding-engine and crusher-houses as the weather allows.

WEST WHEAL TREMAYNE.—S. Roberts. Dec. 13: In the 20 west the lode is 12 in. wide, and composed of spar, peach, and mundic, with rich black and grey copper ore—a highly promising lode. We began the rise against Pash Toll shaft yesterday. The water in the shaft is still rising; there is about 3 fms. of water in it now. We have the collaring of the shaft and the erection of the whim now in hand, which we shall complete shortly, if the weather is favourable.

WHEAL AGAR.—E. Rogers, Dec. 14: The lode at the engine-shaft, sinking below the 140 is increasing in size, and looking more promising than for some time past. In the 140 west the lode has very much improved, being 2½ ft. wide, and worth for tin 12*l.* per fm. In the 140 and 130 ends east the lode is producing fair quality tinstuff, but in each the lode is rather small. In the 170, east from the rod-shaft, we are driving on the course of the lode; the part being carried is 6 ft. wide, producing saving work for tin, but not of high produce. We sold on Monday 216*l.* worth of tinstuff, and shall sell some tin in the course of a few days.

WHEAL FRANCO CONSOLS.—W. Doidge, Dec. 13: The stope, west of Sutton's shaft, has improved a little since my last report. We have now from 10 to 15 tons of ore on the floors in course of dressing. The water during the past week has risen about an inch in twenty-four hours.

WHEAL BULLER.—James Inch, Dec. 14: Haking's shaft is sunk 9 fms. under the 102, through a large lode, which has produced a little tin and copper ore, but not of sufficient quantities to value. We hope to get this shaft down to the 112 in the space of another month, when we shall commence to drive east on the lode with all speed. Since the last account we have driven north at the 102 17 fathoms on the cross-course, and cut the north lode, and have driven 4 fms. on its course; this lode is from 3 ft. to 4 ft. wide, and has produced some good stones of rich yellow copper ore. We have about 13 fms. more to drive this level to get under the winze sinking under the 80, which is down 7 fms. under the level, and is worth for tin and copper ores 12*l.* per fathom, a very kindly lode. When this winze is communicated to the 112 it will lay open a good piece of tribute ground. We have also put up a rise in the back of the 102, 10 fms. on the cross-course, and sunk a winze under the 80, and communicated to the rise, so that now we have good ventilation all through this part of the mine. Steven's shaft is sunk to the 102 and suspended for the present. We are driving and stoping west of this shaft, where the lode is 9 ft. wide, worth for tin 40*l.* per fathom. Here we are laying open a good piece of tin ground. We are also driving and stoping east of this shaft, where the lode is 20 ft. wide, but we are only carrying the south part of the lode, which is about 10 ft. wide, and is worth 12*l.* per fathom. The north part of the lode when last taken down was worth 13*l.* per fathom; by taking away the south part first the north part will be taken away much cheaper than by stoping it now. We have a winze sinking under the 92, 13 fms. east of the cross-course, which is down 5 fathoms. This winze is worth for tin 12*l.* per fathom, but we shall be obliged to suspend it on account of water. There are twenty tributers at work at 12s. in the 1*l.* From the foregoing it will be seen that our tin ground in the upper levels is producing but little tin, and although we have a good lode at the bottom of Steven's, our returns have not yet been considerable from this point, in consequence of our having to lay open the ground before we can take away the tin to advantage. The tutwork force at present consists of forty men, besides other surface labourers.

WHEAL CREBOR.—J. Goldsworthy, Dec. 14: There is no change in the tutwork or tribute bargains in any part of the mine since last report. Good progress is being made throughout the mine.

WHEAL FRIENDSHIP.—Dec. 12: Bennett's Lode: In the 170 fm. level we have intersected two small branches, about 6 inches apart, the bearing line of which agrees with the general bearing of the lode, and we now purpose opening a little on it before driving further south. The 150 fm. level west is being driven by the side of the lode. The 140, west of the western rise, is also driving by the side of the lode. We have no change to notice in any of our stopes. Nothing new in the 80 fm. level cross-cut.

WHEAL GRENVILLE.—G. R. Odgers, W. Bennett, Dec. 10: The lode in the 110 east is 18 in. wide, and yielding a little tin, but not to value. We hope next week to commence to sink the north shaft below the 100, which is a very important thing. The lode in the 100 east is 18 in. wide; this has improved to 15*l.* per fathom, and looking very kindly for further improvement; the ground is easier, and we find the strongest or largest grained tin here that we have ever before met with in this mine. The lode in the 90 east is worth fully 15*l.* per per fathom. The lode in the winze sinking below this level is looking much the same as it has for some time—25*l.* per fathom for 6 ft. long, or (say) 50*l.* for the whole length (12 ft.) The lode in the 80 east is worth 12*l.* per fathom. The lode in the 60, east of north shaft, is small, and producing a little tin. The 80, west of the cross-cut, on the dropper, is worth 10*l.* to 12*l.* per fathom, and the stope above this level is worth 15*l.* per fathom. We are getting on pretty well with our dressing. We purpose selling on Tuesday, which we believe will be fully equal to our calculation.

WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, Dec. 15: In the 110 east we have met with a good branch of tin, reaching from the bottom of the level, 2 ft. above; the tin is very strong, and worth at present 12*l.* per fathom. The lode in the 100 east is worth fully 15*l.* per fathom. We have commenced to sink the north shaft below the 100; the lode is 2 ft. wide, kindly in appearance, and yielding tinny work. The lode in the 90 east is worth 15*l.* to 20*l.* per fathom. The lode in the winze sinking below this level continues worth 50*l.* per fathom for 12 ft. long. The lode in the 80 east is worth 12*l.* per fathom; we shall lose no time in intersecting this part of the lode in the 66.

WHEAL JEWELL.—A. Bennett, Dec. 14: We are now cutting plat, &c., preparatory to sinking the sump, which we shall begin to do in a fortnight; the ground is expeditious for sinking. The lode in the bottom level driving west is improving every fathom in driving. Driving the bottom end east as fast as possible to cut through the cross-course, where we have gone over a splendid lode about 29 fms. in length, and the end still yielding ore of rich quality, the lode is from 6 to 8 ft. wide. Sinking a winze east of the cross-course in a course of yellow and bell-metal ore, a sample assayed upwards of 38 per cent. for copper. The great mass of gossan gone over for about 140 fms. in length appears to hold down in places to the depth of 30 fms. from surface.

WHEAL KITTY (St. Agnes).—S. Davey, William Polkinghorne, Dec. 10: New Shaft, Pryor's Lode: The shaftmen are still engaged cutting plat, consequently there is no change to remark. In the 118 fm. level, driving west of new shaft, the lode is much the same as when last reported, worth for tin 17*l.* per fathom. In the 118, driving east of shaft, the lode is worth for tin 7*l.* per fathom. In the 106, driving west of shaft, the lode is still large, and worth for tin 25*l.* per fathom. In the 106 east we are still driving south. In the 94, driving west of shaft, the lode is 4 ft. wide, and worth for tin 12*l.* per fathom. In the 94, driving east of shaft, the lode is worth for tin 5*l.* per fathom. In the 82, driving west of shaft, the lode is worth for tin 7*l.* per fathom. In the winze sinking below this level the lode is 3 ft. wide, and worth for tin 12*l.* per fathom.—Old Lode: In the 82, driving west of Holgate's shaft, the lode is poor.

WHEAL TRELAWNY.—Thomas Grenfell, John Pryor, Dec. 14: The sinking of Trelawny's engine-shaft is going on very favourably, and the arranged pitwork is working well. In the 222, north of Smith's shaft, the ground has improved for driving, and in appearance for the production of mineral. No lode has been taken down in the 210, north of Chippendale's, nor in the 210, south of Smith's, during the last fortnight—then reported worth, the former 12*l.* per fathom and the latter 8*l.* per fathom. The winze-plat, &c., is all but in readiness for sinking in the bottom of the 182, to communicate with the rise in the back of the 210, south of Trelawny's, where the lode is worth from 10*l.* to 12*l.* per fathom. When this communication shall be effected, we look forward to the laying open of some extensive and profitable ore ground.

WHEAL UNY.—William Rich, Matthew Rogers, Samuel Coade, jun., Dec. 9: Owing to the breaking of the beam of the pumping-engine the bottom levels have been under water since our last report. The engine has been repaired, and is working well. We hope to have the water in fork, and resume operations in the bottom of the mine, on Monday morning next. The 130 end, east of Gooding's shaft, is worth 10*l.* per fathom. The 110 east is worth 9*l.* per fathom. The 100 east yields a little tin. The rise in the 80 east is worth 8*l.* per fathom. The 60 east is worth 12*l.* per fathom. The 45 east has improved; now worth fully 12*l.* per fathom. The stopes in back of this level are worth 12*l.* per fathom.

WYE.—John Paull, Dec. 15: The cross-cut north from Murchison's shaft, in the 26, below the adit, is driven 2 fathoms, and is being pushed on by six men; about 8 fms. more will reach the lode. The lode in the 14, going west, is large, spotted with lead and copper ores of a very promising character. In the 14, east of shaft, we have put the men to rise just behind the present end, in the ore ground recently driven through; the lode here yields some good lead ore stuff, strongly mixed with copper. Murchison's shaft should be sunk on for deeper levels, and we are ready to resume sinking whenever thought proper.

PRICES OF MATERIALS,

As charged at the GREAT WHEAL VOR MINES during the following months:—

Description.		July.	August.	September.
Coals, common	per ton	12s. 0d.	12s. 0d.	12s. 0d
Ditto, best	„	16 8-18 4	16 8-18 4	16 8-18 4
Iron, common	per cwt.	9 0	9 0	—
Iron, best	„	11 0	11 0	11 0
Steel, cast and blister	„	45 0	45 0	45 0
Nails, 5 and 6 inch patent	„	17 0	17 0	17 0
Tallow	„	47 6	48 9	48 0
Oil, olive	per gall.	5 0	5 0	—
Candles	per dozen	5 6	5 6	5 6
Powder	per 100 lbs.	33 0	33-38	38 0
Leather—bend	per lb.	2 4	—	2 4
„ butt	„	—	1 10	1 10
White yarn	„	0 5¼	0 5¼	0 5¼
Hemp	„	0 5	0 5	0 5
Timber—Norway	per 50 feet	34 10	36 10	36 10
„ Pine	per foot	1 6	1 7	1 7
„ Oak	„	3 0	3 0	—
„ Birch and elm	„	2 2-2 3	2 3	—
„ Battens	„	0 2¼	0 2¼	—
Rope	per cwt.	42 0	42 0	42 0
Stamp-heads—Longshanks	„	—	—	8 0
Cartridges	per 100 lbs.	34 0	34 0	34-47
Safety fuse	per coil	—	0 6	0 6
Wire rope	per cwt.	34 0	—	—

CALIFORNIA.—The amount of bullion extracted from the Comstock lode up to April last was of the value of 24,000,000 sterling. This is at the rate of 2,400,000*l.* per annum, or 200,000*l.* per month.

GOLD DISCOVERIES IN MEXICO.—A correspondent writing from Chihuahua, to the *New Mexican*, says the people of that State are excited over a new discovery of placer gold, about 75 miles from the city of Chihuahua. Don Pedra Gonzales, the discoverer, with three other men, washed out 23 ozs. of gold in nine hours. The particles found are round and plump, ranging from the size of a grain of wheat to that of a hazel-nut. One nugget weighed an ounce. The place is situated in a deep arroyo, 2000 or 3000 yards long, and is supplied with water from springs in all parts. The dirt yields from $1 to $3 to the pan.

AMERICAN COAL MINING INDUSTRY.—We have before spoken of the remarkable spirit displayed by the *Miners' Journal*, which, being published at Pottsville, in the heart of the coal region, and conducted by gentlemen in every way conversant with the management and yield of the collieries, and well acquainted with all the machinery and appliances required, presents a most valuable Guide to the Mining Industry of the United States. The proprietors of that journal have now issued their "Miners' Journal Coal Statistical Register," which contains such an abundance of information relating to the coal trade of last year that it cannot fail to obtain an extensive circulation. The contents of the Register is very varied, most of the articles being ably written, and containing a large quantity of highly interesting facts. In Schuylkill county about 91 persons were killed and 96 maimed and injured in raising about 4,883,000 to

of coal. The Register appears well to represent the coal and iron interests of the district, and will form a valuable work of reference hereafter.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Birmingham and the Black Country, No. IV.; Collieries in Northumberland, their Working and Machinery; Rating of Coal Mines; Mechanical Ventilation of Collieries; Coal-cutting Machinery (J. Rothery); Boiler Explosions and Colliery Accidents; Tin and Copper Mining in Cornwall (A. Bennett); Boring Machinery (T. A. Warrington); Terras Tin (St. Stephen's, Cornwall); Honour to whom Honour is Due; Old Redmoor Mine, and its Management; Tin at New Great Consols; Wheal Agar—Down amongst the Greenstone, &c. (J. Randall, F.G.S.)—Precious Metals and Precious Stones, No. II. (Prof. J. Morris)—Geological Society of London Meeting—Mineral Resources of Colorado, No. II.—Testing Metals Mechanically (Gustav Bischoff)—Patent Matters, &c.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, DEC. 16, 1870.

COPPER.	£ s. d.	£ s. d.
Best selected ..p. ton	72 0 0-	73 0 0
Tough cake and tile	70 0 0-	—
Sheathing & sheets..	72 0 0-	73 0 0
Bolts	73 0 0-	—
Bottoms	73 0 0-	75 0 0
Old	60 0 0-	—
Burra Burra	71 0 0-	72 0 0
Wire.....per lb.	0 0 9½-	—
Tubes	0 0 10½-	—

BRASS.	Per lb.
Sheets	7½d.- —
Wire	7d.-7¼d.
Tubes	9¼d.-10½d.
Yellow Metal Sheathing ..	6½d.-6¾d.
Sheets	6¼d. —

SPELTER.	Per ton.
Foreign on the spot	£17 10 0-18 0 0
,, to arrive ..	— - -

ZINC.	
In sheets	£21 0 0-22 0 0

QUICKSILVER (p.bottle) (nom.) 10 0 0

TIN.	
English blocks ..	£130 0 0- —
Do., bars (in brls.)	131 0 0- —
Do., refined	135 0 0- —
Banca	130 0 0- —
Straits	130 0 0- —

TIN-PLATES.*	Per box.
IC Charcoal, 1st qua.	1 5 0- 1 8 0
IX Ditto, 1st quality	1 12 0- 1 14 0
IC Ditto, 2d quality..	1 5 0- 1 6 0
IX Ditto, 2d quality..	1 11 0- 1 12 0
IC Coke	1 2 0- 1 3 6
IX Ditto	1 8 0- 1 9 6
Canadaplates, p.ton..	13 10 0-14 10 0
Ditto, at works	13 0 0-14 0 0

IRON.	Per ton.
Bars Welsh, in London	7 2 6- —
Ditto, to arrive	7 0 0- —
Nail rods	7 10 0- —
,, Staffd. in London	7 15 0- 8 0 0
Bars ,, ditto	8 2 6- 9 0 0
Hoops ,, ditto	8 15 0- 9 0 0
Bars ,, at works..	7 15 0- 8 0 0
Hoops ,, ditto	8 2 6- 8 5 0
Sheets, single	9 10 0-11 0 0
Pig No. 1, in Wales ..	3 15 0- 4 5 0
Refined metal, ditto..	4 0 0- 5 0 0
Bars, common ditto..	6 5 0- 6 7 6
Do. merch. Tyne or Tees	6 10 0- —
Do., railway, in Wales	6 0 0- 6 5 0
Do., Swed. in London.	10 0 0-10 5 0
To arrive	10 0 0- —
Pig, No. 1, in Clyde ..	2 12 0- 3 0 0
Do. f.o.b. Tyne or Tees	2 9 6- —
Do. Nos. 3, 4, f.o.b. do.	2 6 6- 2 7 0
Railway chairs	5 17 0- 6 0 0
,, spikes	11 0 0-12 0 0
Indian Charcoal Pigs, in London, p. ton..	6 5 0- 6 10 0

STEEL.	Per ton.
Swed., in kegs (rolled)..	12 10 0-13 0 0
,, (hammered) ..	13 0 0-14 0 0
Ditto, in faggots	15 0 0- —
English, spring	17 0 0- —

LEAD.	Per ton.
English Pig, com.	18 2 6- —
Ditto, L.B.	18 5 0-18 7 6
Ditto, WB	19 10 0-20 0 0
Ditto, sheet	19 0 0- —
Ditto, red lead	20 10 0- —
Ditto, white	28 0 0-30 0 0
Ditto, patent shot	21 0 0- —
Spanish	17 15 0- —

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—With regard to certain metals, sellers have exhibited during the past week decided firmness, and, on the whole, prices have been tolerably well maintained, and such metals as, owing to the season of the year, and from other causes, have not been in good demand have not sustained any appreciable declension in value. Viewing first the trade of this country—the "home trade"—it certainly is a matter of congratulation that this branch, and a very important branch it is, is on a thoroughly sound, healthy footing. It is true there might be more vitality, and there would be were the element of speculation introduced; but we are far removed from a condition approaching to stagnation; a good, healthy, sound business for the purposes of home consumption continues to be transacted. The trade with the United States is also of a satisfactory character, and thus the present and long-continued inactivity of our business relations with our eastern dependencies, owing in a great measure to the losses sustained in the current rates of exchange, as well as those arising from local causes, has to a certain extent been counteracted. In consequence of the causes already alluded to, as well as the war still raging on the Continent, prices have been seriously affected; but, considering the firmness exhibited by holders of metals, the general position of the country, the facilities with which money may be obtained for the legitimate requirements of trade, the fears which once predominated in the minds of sellers that values might be yet more seriously depreciated, are rapidly subsiding. Approaching, as we are, the Christmas holidays, we can hardly expect any great change in the position of the metal market until next year.

COPPER.—Owing to advices having been received from Valparaiso of comparatively light charters between Nov. 3 and 10, amounting to 860 tons, of which 600 tons only ore and regulus was for England, the market is firm, and business has been concluded in Chili bars, of approved brands, at 64*l*. From present appearances higher prices may shortly be expected. English tough is realising 70*l*., in fair demand for foundry purposes. Manufactured quiet.

YELLOW METAL is somewhat stiffening, in sympathy with copper.

IRON.—Taking a general view of the iron trade, there is no doubt that it is quiet. There are some of the large houses in the South Staffordshire district which are still busy upon the fulfilment of old outstanding contracts, but, as a rule, the mill hands are employed from four to four and a half days per week. The ironmasters do not recognise in the present dulness any criterion of what may necessarily be expected in the future; they look upon it rather as an indication that buyers are engaged, as they themselves are, in making up their books and taking stock—making preparation for the events of the coming quarter. These being the views very generally held, the strongest indisposition is manifested to make any reduction in list prices, as such a step would necessarily be followed by a reduction in wages, and, consequently, a complete disorganisation of the whole machinery. Scotch pigs, after having been very steady during the week, have declined to 51s. 2d., buyers. Market very quiet. Present total decrease of shipments in this year, as compared with last, 7127 tons. In Swedish a decided rise has been established, sales having taken place at 10*l*. It is now most difficult to obtain Indian specification at less than 10*l*. to 10*l*. 5s.

LEAD is rather dull; a slight concession on the part of sellers to meet buyers' requirements might be submitted to.

QUICKSILVER.—No shipments taking place; quotations nominal.

SPELTER is quiet.

TIN.—The market has been firm throughout the week. Transactions have taken place in Straits and Banca at 129*l*. 10s. to 130*l*.

TIN-PLATES.—There is not much doing.

IRON TRADE—(Griffiths' Weekly Report).—During the last fourteen days the iron market here has presented a degree of monotony rarely witnessed for so lengthened a period. The uncertainty which still prevails in regard to the termination of the war, and the flagrant act of Bismark in respect to Luxemburg, has excited feelings here much akin to those engendered when Gortchakoff addressed his threat to Europe of aggression on the Black Sea, and that Russia no longer felt bound by the Treaty of Paris. Under these circumstances, public enterprise stopped for the moment, and orders for large quantities are, for the present, in abeyance. The business done during the past fourteen days has been, in a great measure, on account of Government. One or two home railway companies have likewise given out some fair orders for bars. By each mail we continue to receive moderate orders for the United States; the bulk, however, for this market comes *via* Liverpool. The demand from Melbourne is fairly sustained, and the orders coming in at the present moment are generally from the colonies. With regard to the price of iron for the next quarter, probably there will be no change; this, however, is quite an open question, to be decided by the preliminary meeting. The tin-plate trade is a shade better. On the whole, the iron trade looks no more encouraging than those largely engaged in the trade wish to see.—Cornhill, London, Dec. 16.

COPPER TRADE.—Messrs. J. Pitcairn Campbell and Co. (Liverpool)—The market has been healthy and active since our last report, and in consequence of the great firmness of holders prices show an advancing tendency. This would be more decided but for the absence of export demand for manufactured copper, the general home consumption, however, being most satisfactory. Quotations are 63*l*. 10s. to 64*l*. for Chili bars, 68*l*. for Lota and 69*l*. for Urmeneta ingots, 12s. 6d. to 12s. 9d. for good ore and regulus, and 14s. to 14s. 1½d. for Corocoro Barilla. Business transacted during the fortnight comprises on the spot here—706 tons bars, at 63*l*. to 64*l*. per ton; 98 tons Lota ingots, at 66*l*. to 68*l*.; and 300 tons regulus, at 12s. 6d. per unit. To arrive here, 900 tons regulus, at 12s. 6d. per unit. At Swansea, 1200 tons regulus and 1200 tons Cape ore, at 12s. 6d.; and to arrive there 100 tons bars, at 63*l*. per ton. Arrivals here during the fortnight of West Coast, S.A., produce—Mary Moore, from Valparaiso, with 50 tons bars. At Swansea—Edgar, from Carrizal, 635 tons regulus; Hinda, from Pena Blanca, with 688 tons regulus; Coronel, from Coquimbo, 265 tons regulus and 340 tons bars; Anne Dymes, from Carrizal, with 530 tons regulus; Spirit of the Morning, from Carrizal, with 950 tons regulus. Stocks of copper (Chilian and Bolivian) in first and second hands likely to be available are—

	Ores.	Regulus.	Bars.	Ingots.	Barilla.
Liverpool	2103	3365	11,300	2275	428
Swansea	3592	9383	2,876	505	242
Total	5695	12,748	14,176	2780	680

Representing about 24,300 tons fine copper, against 17,900 tons fine copper Dec. 15, 1869; 12,700 tons Dec. 15, 1868; 8900 tons Dec. 15, 1867.

Messrs. Vivian, Younger, and Bond (Dec. 16) write—A moderate amount of business has been done in Chili bars at 63*l*. 10s. and 64*l*., cash, for good brands, and we close buyers at the latter rate. For ores and regulus 12s. 6d. is freely offered, but holders ask more money. In fine foreign considerable sales have transpired, amounting to several hundred tons, mostly Wallaroo, at 72*l*. cash, and with a slightly extended prompt. The English smelters still adhere to their old official rates as a quotation. For actual business, however, some ask 2*l*. and some 3*l*. advance, while others decline altogether to name a price.

The settlement of the fortnightly account in the MINING SHARE MARKET has occupied a good deal of the dealers' attention this week; but the market, nevertheless, has been firmer generally, and a fair amount of business has been transacted in West Chiverton, East Lovell, Prince of Wales, Wheal Grenville, East Grenville, Tankerville, West Tankerville, Taquaril, Perran Wheal Virgin, Parys Mountain, East Caradon, Don Pedro del Rey, Great Wheal Vor, Tincroft, Van, Wheal Kitty (St. Agnes), South Condurrow, and a few other mines.

There was no sale of copper ore this week.

The advices from Chontales are more favourable. The return of 345 ozs. of gold from 957 tons of ore. San Antonia Mine continues to open out well, with very encouraging prospects. Great Wheal Vors have been firmer, but leave off flat at 3⅜ sellers; the accounts to be presented at the quarterly meeting on Wednesday next show a loss on the quarter ending September of 1217*l*. 0s. 11d. The tin sales were—September, 30 tons; October, 18 tons; November, 20 tons, realising 5128*l*. 13s. 9d.; the costs were 6515*l*. 19s. 9d.

At the Maes-y-Safn meeting, held at Chester, the accounts showed a loss on 12 months' working of 1256*l*. 15s. 3d. The lead ore realised 15,285*l*. 1s. A supplemental account for the three months ending October shows a loss of 289*l*. 7s. 10d., and a cash balance in hand of 957*l*. 9s. 9d. The deep workings are too poor to pay the costs, the cost of pumping water alone being about 500*l*. per month; and it has been determined to stop them, and to pursue operations in the virgin ground east, where there is said to be good prospects of success. Bronfloyd, 2 to 2½; Carn Brea, 17 to 19, and in demand; Cook's Kitchen flatter at 17½ to 18; Devon Consols, 95 to 100; Ding Dong flat at 16, sellers; Dolcoath, 125 to 130; East Caradon shares have been in demand at 5½ to 6. East Lovell shares have been steady at 24½ to 25½, but leave off 25⅜ buyers, in consequence of the shortness of stock. East Pool, 10¼ to 11; East Grenville, 2 to 2½; Great Laxey, 17½ to 18½; Great Retallack, 15s. to 20s.; Herodsfoot, 42 to 44; Marke Valley, 6½ to 6¾; New Lovell shares advanced to 30s.; Perran Wheal Virgin largely dealt in at prices varying from 32s. 6d. to 37s. 6d., and leave off at from 32s. 6d. to 35s.; Plynlimmon, 2½ to 2⅝; Prince of Wales advanced to 20s. buyers, but leave off a little weaker. Providence, 38 to 40. Rosewall Hill, 22s. 6d. to 25s; at the meeting on Wednesday a dividend of 1s. 6d. per share was declared. South Condurrow has been a shade better, at 3 to 3½; South Frances enquired for at 28 to 30; Spearn Moor, 19 to 20; Tankerville shares have been largely dealt in at 13 to 14, and leave off at 13¼ to 13⅜; Tincroft, 43 to 45; Trumpet Consols, 21 to 23. Van, after being flat at 51 sellers, advanced to 54 buyers. West Chiverton steady at 51 to 52; West Frances, 33 to 35; West Maria, 25 to 30, and in demand. It is reported that the lawsuit is settled in their favour. West Seton, 115 to 120; Crebor, 8s. to 10s. West Tankerville advanced to 3½, buyers.

Wheal Grenville after being flat at 2½ sellers, suddenly advanced to 2⅝ buyers, upon a report of a great improvement in the 110 east. The sale of tin for the month was 960*l*., leaving a profit. We understand the next sale will be much greater, and good profits may be expected. Wheal Jane, 55 to 57½; Wheal Kitty (St. Agnes), 8 to 8½; Wheal Margaret in demand at 8 to 9; Wheal Mary Ann, 8¼ to 9; Wheal Seton, 25 to 27½; Wheal Uny, 2½ to 3.

Pacific, 20s. to 25s.; Sweetland Creek, 3¼ to 3⅜. Taquaril very firm at 50s. to 52s. 6d.; the advices by last mail are very favourable indeed: 37 ozs. 15 dwts. troy of gold have been extracted from 1 ton of mineral broken from the manganese, or jacotinga formation lying upon top lode. One cubic foot of stuff produced over 2 lbs. of gold, besides several nuggets. Terras Tin, 30s. to 35s.; Okel Tor, 12s. 6d. to 17s. 6d.; Bedford United, 20s. to 22s. 6d.; Bedford Consols flatter at 3 to 3¼.

The market for Mine Shares on the Stock Exchange has been rather more active during the week than for some time past. Van shares have risen from 52 to 55 buyers, and in great demand. The sampling for the month will exhibit an increase of 25 tons—say, 125 tons, and 100 tons of blende. It is expected that this ore will be sent down by the new railway. The mine is looking better than at any former period. The explorations continue to open up reserves enormously in excess of the returns. The discoveries both east and west are of equal value to last report. Tankerville Mine is very favourably reported on. It is said that Roman Gravels, a mine up to the present worked privately, has changed hands, and will be worked by a company. West Chivertons are rather flatter. Tin mines are in fair request, and the price of Tincroft is maintained.

Foreign descriptions have attracted a good deal of attention. Don Pedro shares, on an improved return, have risen. Rossa Grande shares are in better demand. Taquaril shares are steady, at an improvement. St. John del Rey shares have been more dealt in, and wear an improving aspect. Sweetland Creek shares, on the announcement by "cable" that the clean up, after 35 days' run, had resulted in a profit, enabling the manager to remit 1600*l*., after paying 200*l*. accumulation of taxes, &c., has imparted firmness to the shares, which close in great demand, at 3⅛ to 3¼. Subjoined are the closing quotations:—Assheton, 3⅜ to 4¼; Tan-yr-Allt, 1¼ to 1⅜; Van Consols, 1⅜ to 2; Devon Great Consols, 90 to 100; East Caradon, 5¾ to 6; East Lovell, 25½ to 26½; Great Laxey, 17½ to 18; Great Vor, 3 to 3¼; Marke Valley, 6¼ to 6½; Tankerville, 13¼ to 13⅜; Tincroft, 44 to 46, ex div.; Van, 55 to 57; West Chiverton, 50 to 52; Almada, ⅞ to 1⅛; Cape Copper, 7 to 8 prem.; Chontales, ⅛ to ¾; Don Pedro, 1⅞ to 2 prem.; Frontino and Bolivia, 6s. to 7s.; Pacific, ⅛ to ⅜; Pestarena, ⅛ to ¼; Port Phillip, par to ¼ prem.; St. John del Rey, 24½ to 25½; Sweetland Creek, 3⅛ to 3⅜; Taquaril, 1⅜ to 2 prem.; United Mexican, 2 to 3; Yudanamutana, ⅜ to ½.

The MELLANEAR MINING COMPANY are inviting subscriptions for 10,000*l*. further capital. For some years this extensive property has been worked by a party of influential gentlemen, several of whom are leading members of the Stock Exchange. In addition to a large outlay previously incurred, these gentlemen have expended upwards of 25,000*l*., and the further amount now sought to be raised is to ensure an extension of facilities, and to provide more powerful machinery, whereby the attested producing capabilities of the property can be economically and expeditiously developed. Mellanear is situated in the parish of St. Erth, Cornwall, and adjoins Great Wheal Alfred, which paid 300,000*l*. in dividends, and Alfred Consols, which paid 100,000*l*. in dividends; and, what is of much greater importance, it possesses the same lodes. Both in Great Alfred and Alfred Consols, which are to the east of Mellanear, a large elvan course ran parallel to the lodes, and about its junction with the lodes in depth these famous deposits of copper were found. It is an important feature, duly appreciated by those familiar with mining, that the same elvan runs parallel with the lodes in Mellanear, and that the depth has now been attained at which its junction with the lodes take place. Capt. William Rowe, manager of West Seton, urges the necessity of extending the present scale of operations, and employing more powerful draining power, by which he says "the proprietors may fairly look forward to their property developing into a good, lasting, and profitable concern." The manager of Wheal Agar (Capt. Edmund Rogers) describes the discovery in the 78 fm. level as a fine course of ore. He says:—"A more promising lode, or a better course of ore than there is now standing in the bottom of the level for about 14 fms. long, I

seldom met with, and it has every appearance of being only the top of the bunch, inasmuch as the lode in the bottom of the level is nearly double the value, and the ore double the length, it is in the back." The names of the directors are a sufficient guarantee that every practical detail will be carried out with the utmost efficiency, and their large interest assures every endeavour on their part to bring about a speedy success. The directors are—Messrs. W. Gundry, W. Harvey (Messrs. Harvey and Co., Hayle), John Heseltine, J. Howard, R. M. Nicholas, Andrew Ross, and W. N. Rudge. As will be seen by the prospectus (which appears in another column), the subscribers for the 2500 shares will have to pay 10s. on application, 10s. on allotment, and further calls (if any) at intervals of not less than three months. The entire capital amounts to 32,000*l.*, divided into 3200 shares of 4*l.* each.

The LONDON TRAMWAYS COMPANY, with a capital of 250,000*l.*, in shares of 10*l.* each, proposes to acquire and work, as one consolidated undertaking, the Metropolitan Street Tramways Company (the first company which obtained an Act for tramways in London), and the Pimlico, Peckham, and Greenwich Street Tramways Company. Although London has not until quite recently had the advantage of any line of tramway, the system is in general use in America and elsewhere, and in all cases has given satisfaction to the public, and profit to those who have constructed the lines. The result in this country promises to be equally favourable, for almost the only metropolitan line at present fully at work—that from Whitechapel to Bow—has just held its first meeting, and returned the shareholders a dividend at the rate of 12 per cent. per annum. The lines of the London Tramways Company traverse a populous district, and have excellent termini, whilst the terms upon which they are to be acquired are all that could be wished. The Metropolitan Company has constructed and opened for traffic the lines from Brixton and Clapham to near the south end of Westminster-bridge, by direct cash outlay, and these lines are, by the terms of the Amalgamation Agreement, to be made over to this company by the exchange of the shares of the Metropolitan Company for shares in this company at par. The Pimlico Company engage to hand over their portion of the lines completed to this company in sections free of all expenses, risks, or contingencies, at the same mileage cost as that of the Metropolitan Company. The total estimated outlay on all the authorised lines on this basis, including equipment, will be provided by the share capital of 250,000*l.*, and an intended issue of debentures 70,000*l.*, leaving an ample margin for working capital. Only disconnected portions of the lines are yet open; but even upon these the returns have been sufficient to yield a profit of 10 per cent. upon the entire capital employed upon them. The company has an influential board of directors; and the solicitors, brokers, &c. (Messrs. Ashurst, Morris, and Co., and Messrs. Walker and Lumsden), are of the highest respectability. The prospectus will be found in another column.

At Dolcoath meeting, on Monday, the accounts showed a credit balance of 5433*l.* The profit on the two months' working was 3935*l.* A dividend of 4296*l.* (3*l.* per share) was declared.

At Rosewall Hill and Ransom United Mines meeting, on Wednesday, the accounts showed a credit balance of 682*l.* 18s. 4d. The profit on the four months' working was 504*l.* 11s. A dividend of 440*l.* 3s. 6d. (1s. 6d. per share) was declared; 135*l.* was appropriated to the second payment, 25 per cent. on account of arrears of dues, 1866; and 107*l.* 14s. 10d. was carried to credit of next account. The report was considered good, and the hope was expressed that the returns of tin would be kept up. Full details will appear next week.

At the East Chiverton Mine meeting, on Thursday (Mr. J. Tucker Hird in the chair), the accounts for the four months ending October showed a credit balance of 55*l.* 1s. It was resolved that the same be received and adopted. In reply to questions put by two or three shareholders, the secretary said he would leave it entirely to the meeting the amount of call they should make. They were in a sound financial position, and his desire was to keep them so. They had now, he considered, better prospects than ever. Having discovered at the 40 such rich lead as the lumps before them, there could not be a doubt but by sinking the shaft to about the 50, and driving a level under the lode where these lumps came from, they would meet with good results. The Chairman then proposed a call of 3s. per share, which was carried unanimously. The secretary having drawn the attention of the meeting to the friendly disposition the Lord of the Manor evinced towards them by reducing the rent of the sett from 35*l.* to 20*l.* per annum for a non-specified time, it was resolved that a vote of thanks be tendered to Mr. J. H. T. Peters. A vote of thanks to the Chairman terminated the proceedings.

At Wheal Buller meeting, yesterday, the accounts showed a debit balance of 1068*l.* 11s. 7d. A call of 2*l.* per share was made.

At Wheal Ida meeting, on Tuesday (Mr. H. G. Sharp in the chair), the accounts made up to the end of October showed a credit balance of 24*l.* 10s. 3d. A call of 1s. 6d. per share was made. Details in another column.

At Great Caradon Mine meeting, on Tuesday (Mr. W. Banton in the chair), the accounts showed a credit balance of 167*l.* 7s. 5d. A call of 2s. 6d. per share was made. Details appear in another column.

At the West Prince of Wales Mine meeting, on Monday (Mr. N. F. Watson in the chair), the accounts for the four months ending October showed a cash balance of 78*l.* 6s. 9d., and liabilities in excess of assets 88*l.* 8s. 8d. A call of 6d. per share was made. It was resolved that Captain Gifford be ordered to resume work immediately, and to proceed to get the mine in fork, so as to enable Mr. Hitchins, if possible, to inspect the lode next week. This meeting was adjourned to Jan. 13. [The report is among the Mining Correspondence.]

The directors of the Ebbw Vale Steel, Iron, and Coal Company (Limited) have declared an interim dividend of 10s. per share.

At the Mining Association meeting, on Thursday (Mr. J. Williamson in the chair), an adjournment was agreed to. It was understood that in the interim the directors would consult with some of the largest shareholders as to the position and prospects of the company. Details in another column.

At the St. John del Rey Mining Company meeting, to be held on Wednesday, the directors report will state that the important work of sinking the new shafts and extending surface works has been carried on steadily and successfully during the half-year. A shaft was down 85 fms. 1 ft. 11 in. on Oct. 31, and B shaft was 83 fms. 4 ft. 5 in. at the same date, showing the largest rate of sinking (over 4 fms. per month) since the work commenced. The total produce of gold was 56,568·3 ozs., against 62,073 ozs. in the corresponding period of last year. The decline was mainly caused by the poor quality of the mineral obtained from the upper sections of the Bahu Mine. The loss on the six months' working at Morro Velho was 5977*l.* 16s. 8d. The reserve fund now amounts to 27,756*l.* 9s. 6d.

At the Frontino and Bolivia (South America) Gold Mining Company meeting, to be held on Dec. 28, the directors, in their report to be then submitted, regret that they have again to present accounts which show a loss on the six months ending June. The shareholders will have to consider in what way money shall be raised to discharge the company's debts and to continue the working of the mines.

The Bank of England return for the week ending on Wednesday evening showed in the ISSUE DEPARTMENT an increase in the "notes issued" of 191,695*l.*, which is represented by a corresponding increase in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there was shown an increase in the "public deposits" of 748,967*l.*, in the "other deposits" of 11,967*l.*, and in the "rest" of 12,137*l.*, together 773,071*l.*; and a decrease in the "seven day and other bills" of 71,896*l.*=701,175*l.* On the other side of the account there was a decrease in the "Government securities" of 9*l.*, and in the "other securities" of 413*l.*=414*l.*, making a total increase in the reserve of 705,315*l.*

The City of Brussels has brought nine silver bars, valued at 2170*l.*, from the South Aurora Mine, White Pine, Nevada.

HIRWAIN COAL AND IRON COMPANY.—The Master of the Rolls has appointed Mr. Robert A. McLean (Barnard, Clarke, and Co.), of London and Bristol, the provisional official liquidator of this company. Messrs. Vallance and Vallance are the solicitors acting in the matter.

Vice-Chancellor Bacon has appointed Mr. James Ford official liquidator of the Nevada Freehold Properties Trust.

COAL MARKET.—Only 58 fresh ships came forward this week, the stormy weather having checked their progress. The trade in all kinds of coal has been slow, and prices generally quote a reduction of about 6d. in the week. Hetton Wallsend, 18s. 6d.; East Hartlepool, 18s.; Kelloe Wallsend, 17s.; Hetton Lyons Wallsend, 15s. 6d.; Hawthorn Wallsend, 15s. Unsold, *nil:* 25 ships at sea.

COLLIERY ENTERPRISE IN SOUTH WALES.—"Perseverance shall obtain its reward" is a saying worthy of being remembered, especially in all matters connected with the development of the many valuable deposits buried beneath the surface of most parts of these isles. In no place has it been more deservedly rewarded than on a colliery property near Swansea, which until some few years ago remained unwrought and untried; but having fallen under the notice of one energetic man, he resolved, single-handed, to undertake its development. His first step was to secure a 99-years lease of about 220 acres, immediately upon getting which he commenced sinking a shaft, which has now reached the depth of about 300 yards, and enabled him to prove five valuable seams of bituminous coal, giving a total thickness of about 17 ft. From three of these seams he is now raising considerable quantities of very good coal, keeping the other two in reserve to work upon at any time he may think proper. Other very valuable seams are believed to exist at greater depth, and there is no question but that true success has been achieved. The surface and other arrangements prove the foresight of the man. Three air-shafts, giving complete ventilation, have been put down, a powerful pumping-engine has been erected; cottages, stabling, workshops, &c., are all there, and the only thing now required to make all complete will be finished in a few days—a tramway communicating with a neighbouring railway. When this is done the returns, which are now most satisfactory, will be very materially increased, and the fortunate proprietor will be able to sit down and receive his reward.

VAN.—This month's sampling will amount to 425 tons of lead and 100 tons of blende.

TAQUARIL.—It will be seen by the advices (which appear in another column) that 37 ozs. 15 dwts. troy of gold has been obtained from about 1 ton of mineral, broken principally from a new shoot of ore met with in the old workings in the manganese on the top lode. This shoot was discovered on Oct. 13, and the first bunch of box-work taken therefrom proved excessively rich, superior to anything before reported—1 cubic foot of the stuff, as broken in the mine, having produced over 2 lbs. of gold, besides several nuggets. The fact that a good bunch of box-work has been met with in the manganese is in itself a matter of the greatest importance, and augurs well for the future of the company. The stamps were expected to be ready for work two or three days after the mail left.

THORNHILL REEF GOLD MINING COMPANY.—The shares will be allotted in the course of the ensuing week. All persons, therefore, wishing to join the company should send in their applications without delay. It appears that the property is well-known in Australia as a proved and paying mine, and highly thought of. The present reserves are sufficient to last for years, and to return to the shareholders their capital many times over, but independent of this the agent, Mr. Salter, lays great stress upon the appearance and value of the last sinking of the two principal shafts. Not only are these shafts passing through good paying and permanent looking ground, but they would also appear to be opening out a fresh zone of auriferous quartz, superior in character to any that has been met with before, and which he fully believes will prove very rich. In this opinion he is confirmed by those who have inspected the mine. The length of continuous auriferous quartz laid open in this reef has been seldom exceeded in the colony, but as yet it shows no signs of giving in.

MINING IN IRELAND.—In the Supplement to the Journal of Nov. 26 we published an interesting letter by Prof. White respecting the Cappagh Mine. We have, on many occasions, referred at length to the mines and mineral wealth of West Carbery, feeling assured that no districts in the United Kingdom offered anything like the facilities and prospects for the *bona fide* investment of capital as may be seen in the extreme south-west of Ireland. Captain Hyde has rendered an incalculable benefit on this great mining district, having himself solved the great problem, and proved beyond all doubt that the greatest and richest masses of copper of copper ore are to be found in it between 200. fms. and 300 fms. deep. This great fact is established, and those who may have been previously sceptical as to the rich deposits of ore continuing in depth must now acknowledge that their superficial theories were altogether erroneous and illusory. The Cappagh Mine, we are informed, has just entered into the second hundred fathoms in depth, and having a lode going down from 6 to 9 ft. wide, with ore producing from 45 to 53 per cent. of pure copper. We should infer from these important facts, together with the splendid discoveries in the bottom of Ballycummisk, that Cappagh will soon rank with the most profitable mines in the United Kingdom. It is really surprising that more capital does not find its way into the valuable mining districts of the South-West of Ireland, instead of being swallowed up in a variety of bubbling schemes.

POLBREEN (St. Agnes).—Another most important discovery for the adventurers has been made in this mine during the present month. A good lode of tin has been come on below the 22, but only 14 ft. below, which is found to go down into a run of tin, all in whole ground. This is the second great discovery during this year, and both will be sending tin to surface immediately after the turn of the year. There are now in Polbreen 15 pitches, working by between 30 and 40 men, besides a number of hands employed in driving and other work. The main beam of the stamps engine was fixed in its place in the new engine-house during the week just over. The prospects for the next account-day, some ten weeks hence, are exceedingly satisfactory.

OPEN STOCK EXCHANGE.—Quotations of the Sale on Dec. 13:—
Lovell Consols Mine (Cost-book), all calls paid, 5s.
North Jane Mine (Cost-book), all calls paid, 6s.
Rossa Grande Gold Mining Company (Limited), fully paid, 7s. 11d. to 8s. 1d.
The following are the quotations of the Sale yesterday:—
Braganza Gold Mining Company (Limited), fully paid, 12s. 6d. to 13s.
General Brazilian Mining Company (Limited), 17s. 6d. paid, 13s. 9d.

THE CORNISH MINE SHARE MARKET.—Although business continues brisk, and prices generally are fairly maintained, there has not been quite so much animation apparent during the last day or two as was displayed at the time our last report was written, when the exceedingly firm and buoyant condition of the tin market induced expectations to be entertained of another advance in the standard on Monday, which have not been realised. The tin market, however, seems to be in quite as encouraging a position as it was last week, and, should the present quotations be maintained, another rise in the price of black tin cannot fairly be much longer delayed.—*West Briton.*

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Dec. 12	Minera Union	40	£11 16 6	Walker, Parker, & Co.
—	Chiverton Moor	50	15 14 0	Burry Port Company.
—	ditto	20	9 16 0	Sheldon, Bush, & Co.
13	Maes-y-Safn	20	11 17 0	Delafield Lead Co.
—	ditto	30	11 12 6	Panther Lead Co.
—	ditto	12	11 13 6	Walker, Parker, & Co.

COPPER ORES.

NO SALE on Thursday last, Dec. 15.

Copper ores for sale at the Royal Hotel, Truro, on Thursday next—Mines and Parcels.—Devon Consols 1412—South Caradon 584—Marke Valley 490—Glasgow Caradon 230—East Caradon 220—Gawton 200—Phœnix 152—Wheal Russell 125—Kelly Bray 120—Gonamena 84—Prince of Wales 68—Bedford United 65—Hingston Down 63—Okel Tor 50—Craddock Moor 35—Florence and Tonkin 31—Franco Consols 28—Caradon Consols 7.—Total, 3964 tons.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt: it then forms an accumulating useful work of reference.

DYNAMITE.—Will some one interested inform me where dynamite can be purchased—the price, &c. ?—F. C. P.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

SCALE FOR ADVERTISEMENTS.—Our charge for general advertisements is—for six lines and under, 4s.; per line afterwards, 8d. Average, 12 words per line.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, DECEMBER 17, 1870.

THE WORKING OF STEAM-BOILERS.

This very important question continues to occupy the attention of the public. The explosion which resulted in so much devastation in Liverpool has led to criminal proceedings at the current Winter Assizes in that port, before Mr. Justice MELLOR. Last Friday a coroner's jury were engaged in investigating the circumstances under which a fatal boiler mishap occurred at an ironworks near to Wolverhampton. A few days earlier the final inquest was held in respect of the explosion of one of the splendid set of boilers at the Wingate Colliery, at Durham. Then we have the blowing up of a steamboat boiler, with fatal consequences, in Shields Harbour; with the bursting of a still at the Dalton Chemical Works, West Gorton. The Wolverhampton case was of a very simple character, but it had its lessons. It was a plain cylinder, 14 ft. 9 in. long by 4 ft. 9 in. diameter, made of plates ⅜ in. thick, and was worked at a pressure of about 30 lbs. It was used at the works of Mr. DAVID ROSE, of Moxley, to supply steam to the turning-shop, and was in charge of a boy between 15 and 16 years of age. Water was supplied from two pumps, having two actuating valves, and the height of the water was shown by a float-buoy. This float the attendant ought to have tested with his hand about every quarter of an hour, if by his eye he did not perceive that it was working freely. Unhappily, he would seem to have neglected his duty in this respect for quite an hour and a half. During this time the water, which should have been kept at a depth of 2½ ft., fell to 1 ft. This led to a portion of the side of the boiler over the fire becoming heated. In this weakened condition it bulged out, and opened 3½ ft. in length and 4 in. broad. From this gap the steam issued upon the fire, and out at the open fire-door, scalding the deceased fatally, and injuring two workpeople who were standing by him. There was no room to doubt that the youth was himself to blame. The coroner and the jury enquired if he was old enough for so important a duty? Mr. ROSE'S people believed that he was; and Mr. E. B. MARTEN, the Chief Engineer of the Midland Boiler Insurance Company, regarded him as old enough, because of his intelligence. It did not follow that the age would imply the requisite intelligence. The company did not prohibit boys so young from working such boilers. It happened to be the personal experience of certain of the jury that boys are sometimes better minders of detached boilers, working at a low pressure, than are some adults. On this point, therefore, they were satisfied. The only question that then remained was, had the boiler been supplied with sufficient mechanical appliances to assist the minder? It seemed to be the view of some that a whistle ought to have been supplied. Mr. MARTEN did not encourage the notion. We are not sorry that he took that course. We concur with him that, in addition to their blowing off before the time of real danger, they are likely to get out of order, and to occasion the boiler-minder to place more reliance on artificial warning than on the warning which comes from his own vigilance. The one buoy diligently watched ought to have been a sufficient tell-tale. Two are sometimes still recommended, as will be seen below, but as a rule they are not more serviceable. The minder gets accustomed to watch only one, though there may be a second at hand. A much better mechanical auxiliary is a low-water safety-valve. This is so arranged as that an internal float opens the safety-valve when the water is becoming dangerously low, and allows the pressure to blow off before the point of absolute danger. It makes such a snorting noise in doing so that it also calls attention to the danger which exists. There are many forms of it in use. The best of them send the steam upon the fire, which is thus put out, and the danger averted. Such self-acting low-water safety-valves are of great value, they not only give warning, but, added to the ordinary safety-valve, they actually relieve the pressure, and prevent the danger without assistance from the man in charge. They have not yet, however, got into use at the ironworks and collieries of the Staffordshire district. At the same time that the jury found that the deceased only was to blame, they wisely recommended the adoption of the self-acting low-water safety-valve.

At the Wingate Colliery there were no end of external appliances with a view to prevent danger. The proprietors seem to have left nothing undone that had been recommended to them. The exploded boiler was one of seven, and was No. 5 in the range, the longest in which was 35 ft. It was 20 ft. 6 in. long, by 6 ft. diameter, and made by 10 streaks of plates arranged longitudinally. The first fracture would appear to have taken place at the second seam to the right hand of the bottom centre, or at the very front of the seam on the egg-end, and to have passed along the seam about 6 ft., and then to have torn round the shell and across the egg-end in front. The boiler had a flash flue, and the whole range was fitted with JUKES' furnaces. Upon the main steam-pipe between Nos. 6 and 7 there was a safety-valve 6 in. diameter, with a lever graduated to 35 lbs. At the other end of the steam-pipes was another safety-valve, 5 in. diameter, in addition to the valves upon the boilers, of which there were two upon each. Here, therefore, were no fewer than 16 safety-valves. Detailed in order from the front, the fatal boiler had upon it these mountings—HOPKINSON'S patent compound safety-valves, float-pillar, steam-jug, feed-jug, safety-valve, and sludge-block. There was a clear communication between Nos. 5 and 6 from the bottom of the boiler, and an excess of pressure in one boiler would force the water from that into the other, for there was no clack or "kep" valve. HOPKINSON'S valve and the 6-in. safety-valve were both forced from their seat, and with them the boiler-minder, who is supposed to have been at the top of No. 5, in the act of putting off the feed-valve, when he met his death. The seam in which the fracture began would not be left without water (it was the opinion of Mr. WM. WALLER, the Inspector in the Northern District for the Steam-Boiler Assurance Company, previously mentioned) until by far the greater part of the water in the boiler at the working level had been run out, though at this level the bottom of the feed-pipe would pass into the water. The conclusion at which that gentleman arrived was that the water had become low, and that by opening the feed-valve to admit water the water had been further lower by being blown into No. 6; that the seam in which the rent took place had been weakened, either by repairs or fire; that there was no excess of pressure or sudden release of steam, but that the boiler gave way under the ordinary pressure at a weakened seam. He suggests that in all cases clack or "kep" valves should be used on the feed, and that two water-gauges, indicating at all times the height of water, should be applied to each boiler.

Both these accidents happened from shortness of water. In both cases that shortness should have been detected. In respect of neither had it been represented to the owners that more was needed to make the boilers secure than they possessed. Yet in respect of each such an apparatus might have been applied which, in all probability, would have prevented the accident. Many fittings are to be avoided, for when they are many they are not all kept in order. Fittings are either for use or warning. The steam-gauge, the float, and whistle are only warnings. The necessary fittings are—feed-valve, with a valve to keep the water from returning when once in the boiler, spoken of by Mr. WALLER as the "kep," but usually known as a back valve; a blow-off cock, a steam-valve to the engines, a safety-valve, and a water-guage. The absolutely necessary fittings only are insisted on by the boiler companies generally, for they usually wish to avoid putting their clients to an unnecessary expense. But we venture to suggest to all boiler owners the desirability of adopting the most effective form of low-water safety-valves in all cases where it has not been adopted.

RELATIVE SAFETY OF COLLIERIES.

In the last two weeks' Journals we published a very valuable contribution to Coal Mining Statistics, from the pen of our valued correspondent, Mr. P. COOPER, of the Holmes Colliery, Rotherham. From this we learn not only the relative safety of the collieries in the district, but indirectly also the relative safety of the long wall and pillar and stall systems of working. The greatest safety, judging from the percentage of accidents from all causes, does not exist in a long wall district, yet, taking the tables generally, the pillar and stall does not seem to offer any real advantage when compared with it; indeed, Mr. COOPER'S figures go far to confirm the opinion frequently expressed in the *Mining Journal* by practical men that whether one or the other system should be adopted can only be determined after careful consideration of the nature and position of the seams to be worked. The greatest safety (100·00) existed in the East Scotland district, where both long wall and bord and pillar are employed, South Durham, where bord and pillar is exclusively used, coming next, with 98·42 per cent. of safety. The Western Division of Scotland, where both long wall and bord and pillar are also used, stands at only 92·27 per cent., or nearly 8 per cent. below the Eastern Division; and this is followed by the Northumberland (bord and pillar) district, with 80·09 per cent.; and the Midland (long wall) district, with 75·64 per cent.—the rate of safety gradually diminishing until we have only 30·98 per cent. in South Wales, 29·30 per cent. in Yorkshire, and 27·64 in West Lancashire and North Wales.

Now, with regard to explosions, it is we think beyond question that the same seam could be as thoroughly ventilated (assuming it to be a seam where either system would be practicable) if worked by long wall as by bord and pillar, and *vice versa;* but it does not at all follow that, therefore, either system could always be adopted, and that the sole consideration should be which system will permit the largest percentage of the coal to be got. Explosions may reasonably be expected to be more numerous in a fiery district than in one that is not fiery, but allowance must also be made for the thickness of the seams and the regularity of the discharge of gas. A seam of moderate thickness and of favourable character might give off 1,000,000 cubic feet of gas per day, and yet not endanger the mine, because there would be but 700 cubic feet per minute to clear away, whilst in another mine with an irregular discharge the air might be almost pure one minute, and contaminated with 40,000 cubic feet of gas the next. Of course, if a large quantity of coal be opened daily the danger will be greater than where the quantity is small, because, other things being equal, the larger number of square yards of new coal laid bare the greater will be the escape of gas. Under these circumstances, it would be more just to estimate explosions by the relative skill of the managers and the proportion of ways in the mine to the square yards of face of coal open than to attempt to prove that their greater frequency is due to the adoption of either bord and pillar or long wall working.

The case is not very different with regard to accidents from falls of coal and stone, nor with regard to underground accidents generally, whilst the frequency of shaft accidents may be attributed entirely to the relative skill of managers and engineers, neither long wall nor bord and pillar contributing to the causing or prevention of shaft accidents. The falls of stone and coal are shown by Mr. COOPER to be least numerous in South Durham, and most numerous in Monmouthshire and North Wales, and the Midland district, which takes a good place (including accidents from all causes) stands almost lowest in the list of underground accidents. In the working of a colliery so many circumstances have to be considered that it is almost impossible to lay down any general rules, except that there should be strict discipline and skilful management, which simply means that all the peculiarities of the seam worked should be understood by those in power, and judiciously dealt with, and hence it is that probably the best that can be done is to increase the technical knowledge of our colliery management, and impress upon the colliers the desirability of attention on their part to every order given by the colliery officers, with a view to secure their safety.

Mr. COOPER'S papers will prove invaluable throughout the kingdom, for not only will they show those in the more unfortunate districts the necessity of reducing the great discrepancy if they would retain their reputation as colliery managers, but they will enable all to see at a glance the class of accident which demands especial attention in each particular district.

EXHAUSTED COAL FIELDS—No. III.

If a completely equitable scheme cannot be arranged amongst the landed proprietors in the district to be proved, it is possible that at least a combination of the larger proprietors may be effected who may make the trial. It is not, however, a fair thing that some niggardly fellows, who have neither brains or spirit to join in such an adventure, should reap all the benefits of other people's expenditure and risks. There is every reason for supposing the mineral fuel to lie beneath their estates, and in this case, at least, it would be no hardship to tax them for the purpose of proving their own estates, whereas those who live in unlikely and impossible districts ought not, as we said in a former article, to contribute in any way to such trials. Any steps which Parliament may take in the matter of such trials should be directed towards enactments to facilitate proofs in likely districts. It may even go to the extent of advancing public money, and taking security upon the minerals for the repayment, in the event of their being proved; but this should be done only in the case of excessively deep sinkings, such as 1000 yards. Anything like depths of 500 or 600 yards are within the compass of private undertakings, facilitated, as we suggest, by special enactment, to bring in those who may be fairly called upon to contribute.

Let us see what can be done in this direction as matters now stand. In the first place, no doubt the trial should be based upon the report of a competent committee of geologists and mining engineers. We know many mining engineers who are far from competent geologists, so that it becomes necessary to distinguish between the two qualifications. After a thorough examination of the rocks of the district and their relation to the known coal fields adjoining it, and also a careful correlation of the coal fields (in case there be more than one) which are marginal to it, and an estimate of the thickness and variety of strata to be bored or sunk through which are superincumbent upon the supposed coal measures, the committee should mark off an area which they may suppose to be placed under the influence of the trial, and to which it should apply, and fix upon a spot for the trial shaft. The larger proprietors are the proper persons to carry this into effect, and at a meeting of *all* the proprietors, both small and large, the report should be read and discussed. When the sense of the meeting has been taken, and it is found to be in favour of the scheme, a draft agreement, which has been previously prepared, should be submitted and signed. Amongst others, the following points should be considered:—

1.—The owner upon whose property the trial shaft or boring is carried out should, in the event of the mines being proved of commercial value, refund to the company all costs of the sinking or boring.

2.—He should grant a lease of the proposed site for a term of years requisite for the proof, which term will be fixed by the scientific committee. The rent should be nominal, or, at least, not exceeding the agricultural value of the lands adjoining. If the trial prove to be abortive, he may possibly require that the land should be restored to a condition suitable to agriculture, at his option.

3.—The funds for the purpose to be a *pro rata* contribution, based upon the acreage of property possessed by each owner, and not upon its annual value. It may be well to take the contribution in proportions extending over the time required for the proof. This would make it easier for the contributories, and supply funds as they are required. There should be a limit to the total amount of calls.

4.—As some of the smaller holders may fear the risk of losing even their small proportion, it may have the effect of securing their aid to some extent, if it be proposed to them that they should contribute *pro rata* as before, in case mines of a commercial value be proved. We do not say this is right; but it is a suggestion for bringing in the doubtful and narrow-minded. This fund would, in the event of a satisfactory proof being made, be divided *pro rata* amongst the original contributors, in reduction of certain costs and expenses which cannot be fairly charged to the sinking of the shaft.

5.—In cases of copyholds or freeholds, where there are reservations of the mines, the parties interested in the minerals alone should contribute.

6.—A committee of management would be selected—and here, let us remark, with very great judgment. They would appoint the staff necessary to carry the whole scheme into operation, apportioning the calls, collecting them, and safely lodging them until required. We need not here go into the details; but it is obvious that a secretary and manager, the two offices being combined in one person, judiciously selected, would be requisite for the time. He would see to the orders of the committee of management being carried out, and attend to the sinking, under the direction of a mining engineer.

When we consider the magnitude of an operation of the kind, we are supposing an expenditure of from 40,000*l.* to 60,000*l.*, it will be obvious that the undertaking must be commenced upon the estate of a very large proprietor, or by previous arrangement the owners must consent to granting a long lease over a considerable area, upon terms suitable to the case previously arranged. It may be granted to the company which has been formed to prove the district, or any other they may choose to organise. In the case of a large proprietor this may not be requisite, as he may elect to take the whole matter into his own hands. These are points to be settled at the discussion, previously to commencing the trial. It would only be equitable that the purchaser of the shaft should make his payments back in the proportion, and at the same distances of time, that the calls were made. There might be difficulties arising out of the question of life interests in entailed properties, for the tenant for life would not be likely to charge his life income for the purpose of adding to the income of unborn generations—generations, too, which may not be descended through him. These, indeed, are the cases which seem to point so strongly to the necessity of parliamentary enactment to facilitate such adventures. It is possible that the lawyers may point out some other cases, as where mortgagees have claims, &c. All this will depend upon the circumstances of the case, the locality selected, and other peculiarities of the properties within the proposed area. If such difficulties should appear, and present themselves in such proportions as to be impassable, there is yet another method open.

It has been adopted in the Sandwell Park mining scheme in South Staffordshire. In that case the proprietor grants to a testing company—for that really is the nature of the preliminary organisation—a long lease, which extends over a large area of property (about 1700 acres). As would be expected from the nature of the case, the terms are easy. The company in this case is not made up of the proprietors interested in the neighbourhood, but of mining engineers and strangers who find it worth their while to run the risk of losing a certain sum of money, but with the chance of acquiring a most valuable property. The company is limited; they bind themselves to expend some 16,000*l.* in proving the mines. The total capital is 20,000*l.*, which provides an additional sum over and above this 16,000*l.* to provide for contingent expenses. Thus they know the full extent of their possible loss. The calls are made at easy intervals, which is convenient to the shareholder, and at the same time provides means as they are required.

Should the testing prove satisfactory, then will arise the question of working the mines, which, of course, may be done in a variety of ways, such as letting off the property to other companies or individuals, from whom they would be entitled to expect a larger royalty than they pay to the superior landlord, and in this would be their profit—a very handsome one, in case the Thick coal of that district should prove. Or they may borrow money upon debentures, even though it be a limited liability scheme, for if the trial is satisfactory, the lease will be a very substantial security; or they may re-organise the company, having a larger capital, or sell their interest to other parties at a very handsome profit. In this case, however, there are Thick coal workings at no great distance, and the sinkings are not expected to exceed from 300 to 400 yards, at least in the first instance. Where trials are proposed at a greater distance from margins of the known coal fields, the inducements offered by landlords must be in proportion to the risks, uncertainties, and cost. It must be obvious to them that the same coal at 500 yards deep, even when proved, cannot be worth so much to let as it is where only 100. These points, which are so obvious to those acquainted with mining matters, require to be placed before persons who are totally unacquainted with them, simple as they may appear. When the new districts are *once* proved, then the landlords may ask higher terms, but in the first instance they should meet speculators, who propose to attempt a proof, in the most liberal spirit.

The time is at hand in many districts when this must be done, or the chance, for many long years at least, is gone; and it is in the hope that what we have communicated in these articles may place the matter in its true light to the landed proprietors in some of the unproved districts, that we have published them. Much remains to be written upon the subject, and we are as anxious to receive the views of the proprietors themselves upon the question as those of the mining brotherhood. The ventilation of this enquiry will certainly be required upon the issuing of the Royal Coal Commission Report, and it is well for the public to prepare itself for that event by a careful scrutiny of the case.

IRON ORE DISTRICT IN CUMBERLAND.—Explorations of a very encouraging character have recently been made upon an extensive mineral property called Lowther Park, marked on the Ordnance Map as Wilton Fell; and it is now proposed thoroughly to develope it by the formation of a public company, with the requisite amount of capital. The field extends over upwards of 300 acres, and contains an abundance of hematite ore, from which, with a comparatively small amount of imported ore, an excellent quality of iron or Bessemer steel could be made. Two drifts having already been put in to the extent of 70 fms., an ample opportunity has been obtained for judging of the quality of the ore, and, from assays made, an average of 45 per cent. of metallic iron could be relied upon. From the favourable situation of the property on a hill side there would be no difficulty in bringing down the ore the larger portion of the distance to the Egremont railway station by an incline plane, and a short tramway, not exceeding a couple of miles in length, would place the property in the best possible position for working with remunerative results. With regard to the erection of blast-furnaces, land has been acquired by the former lessee, who failed to work the mines, and could, no doubt, be obtained upon reasonable terms, which would be well adapted for the purpose, and no difficulty would be experienced in obtaining all necessary supplies of fuel for smelting purposes at a cheap rate. A tramway would have to be made from the foot of the mountain to Egremont railway station, and very near the locality of the hematite deposit any quantity of carboniferous limestone of 95 per cent. could be obtained. An advertisement with reference to the property appears in another column.

EXPORTS OF RAILWAY IRON.—The exports of railway iron from the United Kingdom received a rather severe check during October. They amounted in that month to 69,773 tons, as compared with 96,444 tons in October, 1869, and 63,695 tons in October, 1868. The exports to Russia declined to 10,196 tons, against 50,607 tons in October, 1869, and 30,627 tons in October, 1868; on the other hand, those to the United States increased to 28,219 tons, against 18,743 tons in the corresponding period of 1869, and 18,723 tons in the corresponding period of 1868. The aggregate exports of railway iron from the United Kingdom in the ten months ending October this year amounted to 931,991 tons, against 793,619 tons in the corresponding period of 1869, and 509,968 tons in the correspondi period of 1868. In these totals Russia figured for 204,005 tons against 247,278 tons and 100,554 tons respectively; the United States for 341,629 tons, against 262,829 tons and 228,091 tons respectively and British India, for 140,845 tons, against 76,200 tons and 61,3

tons respectively. America and India have thus been much larger customers for our railway iron this year, while Russia has been going back. The value of the railway iron exported in October was 617,349*l.*, against 844,822*l.* in October, 1869, and 512,833*l.* in October, 1868; and in the ten months ending October 31 this year, 7,675,079*l.*, as compared with 6,423,269*l.* in the corresponding period of 1869, and 4,067,653*l.* in the corresponding period of 1868. In these totals the exports to the United States stood at 2,629,075*l.*, against 1,998,781*l.* and 1,673,189*l.* respectively.

REPORT FROM MONMOUTH AND SOUTH WALES.

Dec. 15.—There is, it must be admitted, not a great deal of room for complaint in regard to the Iron Trade, when it is remembered that we are now so nearly approaching the end of the year. The works continue fairly employed, although the manufacture of railway iron has not been so large for some weeks as formerly. The rail-mills are, therefore, not so regularly employed, but the men have been transferred to other branches, and orders have come to hand opportunely to keep them employed on nearly full time. Further contracts have arrived on account of the United States, which keep up a fair degree of activity at Dowlais, Ebbw Vale, and some other large works. Upwards of 8000 tons of rails have cleared from the district to New Orleans, New York, and other places, during the week. Anticipating the solution of the matters which have disturbed the peace of the Continent, some of the establishments of the district are actively at work, and stocking such metals as are likely to be in large demand when the war is closed. Although the demand for pig does not evince any great improvement, the production is increasing, and some considerable quantities are being kept in hand. The movement will, no doubt, prove beneficial in due time. The home demand continues fairly active, and orders for miscellaneous descriptions are tolerably brisk. In this respect, the works are kept in regular employ. A further advance in the price of block tin has increased the difficulties of tin-plate makers still greater. There is no improvement to be reported in the demand.

A much larger degree of activity would, no doubt, be witnessed in the Steam Coal Trade just now but for the continuance of the unfortunate war in France, and probably the prices obtained in the summer would be fully realised still, if not improved upon. The great falling off in the French demand, which was less last month than in the corresponding month of last year by about 30,000 tons, shows how seriously the trade is affected; and it is almost a matter of surprise that the clearances now bear such satisfactory comparison with those of the same time last year. There is a good demand, however, from South American and Indian stations. House Coals continue to be in good request.

A 70-in. pumping-engine, capable of drawing 700 gallons of water per minute, made by Messrs. Harvey and Co., Hayle Foundry, and erected by Messrs. Hocking and Son, of Reduth, the well-known Cornish engineers, was set to work at the Pool Colliery, the property of Messrs. Mason and Elkington, Pembrey, Carmarthenshire, on Tuesday last, in the presence of some of the members of the firm, and several of their friends. The engine, named the "George," was started by Master George Elkington, a son of one of the proprietors, Mr. James B. Elkington.

The returns of the trade of the South Wales ports for the past month are, upon the whole, favourable, taking into consideration the influence of the war upon the coal trade. The exports of coal were as annexed:—Cardiff, 190,269 tons, against 206,046 tons in November, 1869; Newport, 30,483 tons, against 34,794 tons; Swansea, 41,157 tons, against 40,424 tons; and Llanelly, 2899 tons, against 7007 tons. Formerly the coal exports of France were about one-third of the total from the four ports, but last month the quantity did not reach one-sixth, or a falling off of more than 50 per cent. Coastwise the shipments were as follow:—Cardiff, 73,223 tons, against 75,088 tons; Newport, 59,220 tons, against 62,695 tons; Swansea, 18,425 tons, against 19,475 tons; and Llanelly, 9292 tons, against 8319 tons. Cardiff also exported 4755 tons patent fuel, and 8572 tons iron; Newport, 6919 tons iron; and Swansea, 6743 tons patent fuel. Of the iron cleared fully three-fourths went to the American markets.

A petition has been presented for the winding-up of the Hirwain Coal and Iron Company (Limited), and is appointed to be heard before the Master of the Rolls on the 17th.

The directors of the Ebbw Vale Steel, Iron, and Coal Company (Limited) have declared an interim dividend, for the half-year ending Sept. 30, of 10s. per share, being the same as for the corresponding half-year.

The next meeting of the South Wales Institute of Engineers is to be held at Merthyr on Saturday. The discussion of the paper by Mr. E. W. Richards, "On Bérard's Coal-Washing Machine," the discussion of the papers by Mr. Allison and Mr. E. Williams, "On the Cleveland Ironstone," and "The Blast furnaces at the Cleveland Ironworks," will be resumed; also the discussion of Mr. Whitwell's paper "On the application of Blast of a High Temperature to Blast-furnaces of moderate Elevation." The following papers read at the last meeting will be discussed:—"On the North Mineral District," by Mr. W. T. Lewis and Mr. M. Reynolds; "On Meteorological Influence on Mine Ventilation, and recording Ventilation Registers," by Mr. W. Morgans; "On the Changing Character of the Coal from Bituminous to Anthracite," by Mr. Thomas Joseph. The following papers will be read and discussed:—"On Small Trams," by Mr. T. Burns; "On Steam Machinery Employed in Grinding Silver Ore at the Mines of Cerro de Paseo, Peru," by Mr. T. Dyne Steel, C.E.; "On the Chemistry of Iron-Smelting," by Mr. T. Fiewett, C.E.

At the Newport Chamber of Commerce meeting, on Monday, it was stated that the committee appointed to enquire into the cause of Monmouthshire coals being excluded from the Navy List had prepared a report, but circumstances had transpired which had induced them to withhold it for the present.

In last week's report it was announced that Mr. R. Fothergill, M.P., had purchased the "Danyrhiw" Collieries; it should have been the "Danyderri" Collieries.

The arrivals at Swansea include—Louise, from Bilboa, with 130 tons of iron ore, for Holway Brothers; Edgar, from Carrizal, with 620 tons of copper regulus, and 60 tons of bar lead, for Richardson and Co.; Hinda, from Pena Blanca, with 690 tons of copper regulus, for Elford, Williams, and Co.; Haford, from Antwerp, with 118 tons of fire-clay, for Richardson and Walters; Express, from Drammen, with 190 tons of zinc ore, for Dillwyn and Co., and some pitwood and battens, for G. E. Bird and Co.; Confidence, from Bilboa, with 135 tons of iron ore, for Holway Brothers; Emma Francais, from Redon, with 90 tons of iron ore, for R. Crawshay; Hilda, from Bordeaux, with 220 tons of pitwood, to order; Maria Anna, from Bordeaux, with 174 tons of pitwood, to order; Coronel, from Carrizal, with 268 tons of copper regulus and 330 tons of bar copper, for H. Bath and Son; Leonie, from Redon, with 210 tons of iron ore, for R. Crawshay; St. Joseph, from Bilboa, with 142 tons of iron ore, for Holway, Bros.

MR. FOTHERGILL, M.P., ON THE WELSH AND NORTH COAL QUESTION.—Mr. Fothergill, in addressing the electors at Mountain Ash, on Friday evening last, thus referred to the above-named question:

The political power of the North of England is very great in Parliament. Now, there are a number of members of Parliament who are returned for the North of England who naturally support the claims of the coal interests from that particular district. The consequence is this: Government, which you know, after all, is simply a party, are naturally desirous of pleasing as many members of Parliament who support them when they can, in order to have the votes which are necessary to secure the measures they desire to pass. Therefore, it is a serious matter to interfere with anything that affects the union of party, and the coal trade in the North of England being an older trade than the trade of South Wales, they have naturally had the pull over us, being more fully represented than we have been; and hitherto there have been few members of Parliament in the House at all inclined or practicably able to speak on the subject of South Wales coal. Fortunately there was a favourable opportunity this session, owing to the breaking out of the Franco-German war, for suddenly the House of Commons and the whole country took a strong interest in the warlike armaments of England, and people began to ask themselves, "Have we got the best coal that can be procured for the use of our war steamers?" People did not care about the matter before, as to whether they had or had not. If the fleet were enveloped in smoke, and they could not see the signals made from one part of the fleet to the other they did not care much—it only inconvenienced the officers and sailors; but when there was a possibility of England being involved in a great continental war—when there was a possibility of our fleet having to meet other fleets, then it became a serious question indeed whether our fleet possessed the best steam coal or not. Then they began to see the coal which produced such a smoke as to prevent the signals being visible within two or three miles was a serious matter, and asked where smokeless coal could be obtained. Finding this favourable opportunity arise, our able and excellent member for the county, Mr. Hussey Vivian, who has made the subject of coal his study for many years, he and I determined to bring it before the House. We could hardly have got an audience on any previous occasion, but this war directed attention to the subject, and we considered we could obtain the attenton of the House and the attention of the Admiralty. In consequence of this I gave notice of a motion to enquire into this matter of coal, which furnished an opportunity of expressing my views, and Mr. Childers, the First Lord, was good enough to give me his best attention, and I was with much ability and effect followed by my friend Mr. Hussey Vivian, and I may say succeeded in making a good impression towards showing them that we possessed the very best steam coal in the world in South Wales, and that if the Admiralty wanted to select the very best portion of the coal in South Wales, they had only to go to the district of Aberdare and Merthyr, and there they would find it. Consequently, I think, a great many members were persuaded that it was proved to them that it was the duty of the Admiralty to obtain for war purposes the best coal that could be got, and that that best coal should be purchased from this district. The First Lord of the Admiralty met our argument in this way: He was asked by my friend Mr. Vivian what earthly reason, or as he happily expressed it, what occult reason, can there possibly be for using an inferior coal when a superior coal can be got at reasonable terms? What earthly reason could there be for using an inferior article? "Well," the First Lord of the Admiralty replied, "the reason is simply this, that we don't choose to be at the mercy of a monopoly; we will not, if we can help it, buy all the coal we require from one locality, and, consequently, be in their power." Well, the form of the House precludes a member from getting up and speaking a second time, or else Mr. Vivian and myself would have found no difficulty in answering that question. Unfortunately there was no other member present that night inclined to answer the question. But the answer is obvious. What possible monopoly can there be when the purchases of this class of coal, if I recollect rightly, are no more than 200,000 tons a year, whereas this district raises 3,000,000 tons? How is it possible to suppose any set of collieries could establish a monopoly in the face of 200,000 tons only being wanted out of several millions for sale? I think, therefore, the answer was a very weak one. I think the Admiralty should now perceive that there is no monopoly in coming to this district, where there is plenty of competition between us. I can speak from my own knowledge. Selling 300,000 tons a year, I have plenty of strong competitors, and I am sure the Admiralty can get the best article at the least price in this district. There is another point which I should touch upon. It was this. They said, and it was explained to me at length afterwards by one of their officers, "We find a mixture of coal, a proportion of bituminous coal with Aberdare or Merthyr steam coal, is beneficial." Another mistake. I maintain that Aberdare and Merthyr steam-coal alone is better than any mixture. No matter how small the proportion of North of England coal you have with the Aberdare or Merthyr, you damage the fuel to that extent. It is altogether a mistaken idea to mix South Wales with North Country coal. It is preposterous to imagine that Her Majesty's steamers are to be supplied with coal from different stations all over the world with a certain mixture; for, recollect, the fire-grates are to be adapted to this mixture not suitable to the North Country coal, and not suitable to the Aberdare coal, but suitable to this mixture. How is that to be obtained? Why, a certain proportion of North Country coal must go to distant stations, say Japan, and a certain proportion of the Welsh coal must also at the same time go to Japan; they must be stored separately. But then they have not done with the practical difficulty, for in coaling in vessels, Welsh steam coal must be in one bunker, and the North Country in another. The proper admixture afterwards depends on the stoker, and where is he? Why, in the stokehole, and the heat in those places is something tremendous; it is as much as that man can do to throw on any coal he can get, without troubling himself about delicate mixtures or smoke. I say, let them take their orders from the North of England or Wales, or wherever the best coal is to be obtained. If our coal is not as good as the North of England, I am sure we are too manly to wish our coal to be used; but as our coal is best, why on earth not use it? All these points I had the opportunity of enforcing upon the attention of the House, and I hope some good effect has been produced.

REPORT FROM THE NORTH OF ENGLAND.

Middlesborough, Dec. 15.—The market at Middlesborough, on Tuesday, was largey attended, and in the Pig-Iron Trade a firmer feeling pervaded than of late experienced. Foreign politics, however, are such as hinder the progress of business to a very large extent, and altogether a very small proportion of actual business was transacted. Pig-iron prices are undoubtedly steadier, but it is difficult to give quotations as being the average of the district. Firms who happen to be more heavily committed are much higher for their brand than others who may have a larger quantity at their disposal. There is generally a pressure for delivery of iron under contract, but new orders of any importance have not been placed within the past few days. Deliveries by water are checked to a considerable extent by the boisterous weather, but with an abatement of the storm a large quantity of iron would be delivered from the Tees. Inland transmissions are heavy, and the present make of the Cleveland district—which is after the rate of 1,750,000 tons per annum—is being entirely absorbed, and a small quantity lifted from stock also. The Middlesborough warrant store stock shows a further slight decrease to-day, the quantity now on hand being only 13,139 tons. In the finished iron departments there is nothing new to report. Plate-makers are generally pretty well supplied with orders, and have work on hand to keep their mills going for many weeks. The demand for bar-iron is not so brisk. Prices for both these classes of manufacture have during the past few weeks been receding slightly, and are now getting very low. For rails there is a sharp look out kept by makers for new orders, which, however, are only seldom reported. Fresh specifications are eagerly sought after, and quotations cut very fine to secure the contracts. There have been no orders of importance fixed recently, to our knowledge, in this district; and, although several firms have a fair amount of work on their books yet to be executed, there are others whose books are bare, particularly of new orders. The mills have generally been kept going during the last week.

A good deal of conversation took place on 'Change respecting the wages question, and its settlement for next year's work. A meeting of the Board of Arbitration is to be held on Friday, at Darlington, when the notices given by the masters and men respectively for a reduction and an advance will be considered. The lists of wages paid in other districts which were asked for by the men have, we understand, been completed by the secretaries, and other information has also been prepared for the proper and full consideration of the subject, and it is hoped that the tariff will again be amicably arranged for a further fixed period. From all we can gather, it seems pretty certain that the men will have to submit to a slight reduction of the rates that have been paid this year.

Both Coal and Coke Trades are brisk.

The following is Mr. C. E. Muller's Circular on the Cleveland-Pig Iron Trade, dated Middlesborough-on-Tees, Dec. 12:—

Since my last report we have had a comparatively dull market till within the last few days. At Tuesday's meeting the reduction in stocks of 7252 tons during November caused some little stir, and sent the price up 6d. to 1s. per ton. No. 1 may now be quoted 50s. 6d.; No. 3, 47s.; No. 4, 46s.; mottled, 45s. 6d.; white, 45s. per ton, f.o.b. in the Tees, cash. In estimating the force of the reduction in stock, it may be as well to mention that the "make" was 3560 tons under October. The Association Returns are as follows, compared with corresponding month last year:—

	Production.	Shipments foreign.	Coastwise.	Warrant stores.
Nov. 30, 1870..	144,503	16,153	16,974	13,739
„ 1869..	128,288	12,950	9,960	34,139
Increase	16,215	3,203	7,014	Dec. 20,400

Taking into account the decreased "make" above referred to, foreign shipments seem to account for the rest, Germany having taken over 3000 tons in excess of her requirements last year. By way of comparison, I subjoin the exports (for Nov. this year and last) to those countries more immediately affected by the present war:—

	Holland and Germany.	France.	Belgium.
Nov., 1870	9103	776	5170
„ 1869	5964	1636	4459
Increase	3139	Decrease.. 860	Increase .. 711

Manufactured iron is not in so satisfactory a position as it has been for some time; orders for rails, plates, and bars would gladly be booked now at prices which were scorned at a few months ago.

TRADE OF THE TYNE AND WEAR.

Dec. 15.—The supply of vessels has been good, but the progress of craft has been seriously impeded by severe weather on the coast. The continuous progress of the war has inflicted much injury on the export Coal Trade, and the late advance of the Prussians to Dieppe, and the threatened occupation of Havre, have almost extinguished the coal trade to the French ports for the present. Most of the engine works and foundries of the district continue to be well employed; and as to the Iron Trade, the demand for ship-plates and also for pigs continues good, but for bars, rails, &c., the demand is very moderate indeed. The wages question attracts much attention, and all business connected with the iron trade will continue dull until this question is settled.

A fatal accident occurred at the Dennington new winning on Monday. This new shaft has now reached a considerable depth, and has been sunk through the High Main seam, and considerable progress has also been made in sinking through the lower strata. It is expected the main steam coal seam will be reached shortly.

COLLIERY WORKINGS—INUNDATION.

An important paper on "Boring against Water in Coal Mines," by Mr. A. Ross, has been read before the North of England Institute of Mining Engineers. The author explained that when the workings in a coal mine are known to be proceeding towards old workings, accurate plans of which are not extant, it is necessary to bore holes in advance in order to prove the ground, as accumulations of standing water cause considerable danger and also great expense. Three holes are usually bored, one in front and one on each side; the length of these holes varies, but may range from 5 to 10 yards, according to circumstances. It is very important that the flank or slope holes, on each side, be carried at such an angle as to enter any drift whatever position it may be placed in as compared with the advancing exploring drift, and thus ensure the safety of the men and mine. Take a very simple case of a drift filled with water, lying at right angles to the advancing drift; the holes are bored 8 yards, the slope holes at an angle of 45° as compared with the centre line of the drift. From the position of the two drifts it is evident that the bore-holes, if of sufficient length, must enter the working containing water in advance of the advancing drift, and no danger can arise. When holes are bored 8 yards, 4 yards are taken off, and the holes again made 8 yards deep. Suppose, again, a drift exactly in a line with the advancing drift, and the remarks made apply with equal force, as the front hole is certain to protect the advancing drift. If the drift be met with a little to the right or left of the advancing drift, the slope-hole taps the water, the advancing drift being safe.

It is only in the case of a drift overlapping a portion of the face of the exploring drift, but not sufficient of it to be tapped by the front hole, that (the bore-holes being continued as before) the slope-hole, bored at an angle of 45°, can miss the flooded working, and the advancing drift is liable to be holed with the pick, unless the men are warned by the bleeding of the coal; and here it may be remarked that some coals bleed very freely, and the men can always foretell an approach to old flooded workings from a close examination of the appearance of the coal. It must be noticed that the slope bore-hole, which is bored at an angle of 45°, may be only 2 ft. from the drowned drift, and this is a very small distance, and it might be supposed that the bleeding would be so great that ample warning would be given of the danger. It must be considered that the old drift is assumed to be 9 ft. wide, the same width as the modern exploring drift, but this is the full width of a wide bord in most very old workings, and old drifts are very frequently met with only half this width, and even less; assuming such a drift 4 feet in width, then the distance from the drift to the bore-hole would be 5 ft., and this would in ordinary cases keep back water under any amount of pressure, and it would be quite uncertain as to whether the amount of bleeding would be sufficient to give warning of the danger. The backs or facings of most coal show water, and the small interstices between the regular beds are indeed filled with water, which, as the coal is cut away, may be seen dropping out of the beds. This generally occurs at a distance of from 15 to 20 yards from the old workings flooded, but it must be borne in mind that precisely similar appearances are frequently noticed when the exploring drift is approaching a fault or trouble. Other coals, however, do not bleed at all, the pores in the structure of the coal being very small, and no regular cleavage being found; in working coals of this kind the men have often approached and also holed with the pick into flooded workings, the close proximity of which was never suspected. But whatever may be the nature of the coal, it will be admitted that only boring can be depended upon to ensure safety to the mine and the workmen, and it is evident from the case just noticed that an angle of 45° for the flank holes does not ensure safety.

Another system of boring is shown, where 10 yard holes are used, and the angle of the slope-holes is 15°, or 9 in., per yard. There is little doubt that where the coal is favourable 10-yard holes are to be preferred to 8-yard holes; and it is apparent from a diagram that the slope-holes being bored at an angle of 15° ensures safety. That is, the drift proceeding forward cannot be holed with the pick, the bore-holes tapping the water first, whatever the position of the flooded drift may be in as compared with the exploring drift. But by this system it may, perhaps, be possible to get the side walls too thin, and thus the drift may pass in dangerous proximity to a drowned drift. Should a similar drift occur where the angle of the slope-holes is 20°, or 12 in., per yard, the thickness of the coal in that case would be 10 ft., and there is little doubt that in cases where the coal is hard, close, and compact this thickness of coal would be sufficient to bear any pressure required. And if the coal should be of a soft porous nature, the pressure of water under high pressure would, as remarked above, most certainly be shown by the bleeding of the coal, and extra holes, bored in an irregular manner, would be resorted to in order to prove the ground. In such a case holes would be bored at right angles to the front hole before the drift was further pushed in advance. It must be noticed that all the preceding remarks apply to drifts working in clean coal, clear of faults of any consequence. Where hitches and faults are met with no regular system of boring can be adhered to, but the boring must be guided by the position of the faults. Great caution is necessary where broken ground, intersected by hitches or faults, is met with, and it must be noticed that very frequently old workings are found to terminate at these points, the first explorers having evidently had a great dislike to pass through such obstacles.

To guard against being deceived by boring into the solid coal left in old flooded workings, Mr. Ross proposes that the bore-holes should be put up a little, instead of dipped as usual. He also explains a mode adopted for the purpose of preventing the great expense of boring each bord with three holes. A leading drift is driven, and bored with three holes as previously described, and this bord is bratticed and driven in some cases 30 yards, and in other cases 60 yards. Headways are then driven in each direction at right angles to the leading drift, and bored with two holes, one flank hole and one front hole only being used; and as these headways advance bords are turned in a contrary direction to the leading drift, and these bords are driven back with only one flank hole. When the flank holes are bored at an angle of 45° it becomes necessary to bore numerous holes, which must add materially to the cost of boring, while the system of putting forward the holes at an angle of about 20° appears perfectly safe and more economical, whilst it meets the case of cross-cuts driven at any angle to the exploring drift. The cost of boring coal is, of course, much less than the cost of boring stone and ordinary strata met with in mining. The work is generally done at so much per yard; the usual price paid is 5d., so that the cost of boring a leading drift with three holes amounts to 2s. 6d. per yard—that is, each yard the drift advances costs for boring 2s. 6d. As there are three holes bored in the first instance 10 yards, and again repeated when 5 yards are taken off, it follows that the holes are double, and there are six holes in the drift, and six holes at 5d. equal 2s. 6d. per yard, as above.

In the course of the discussion which followed the reading of the paper, Mr. J. B. Simpson said that Mr. Ross had assumed that the exploring place he was driving would hole into old workings filled with water at right angles to them; but should there be an old cross-cut, it seemed quite clear that with flank holes at 5 or 6 yards apart, it might be holed into unexpectedly with picks. He usually put his flank holes at 2 or 3 yards apart to prevent that possibility, and put them in about 15 ft.—In reply to a question, Mr. Ross said he never had less than 6 yards between any possible water; he did not prefer an angle of 45°.—Mr. Heckels thought 45° was the best angle, but they must take care to have the holes sufficiently numerous to work with safety.

REPORT FROM SCOTLAND.

Dec. 14.—The year is about to close more happily for the metal trade than the complications of the last six months at one time indicated, the heavy decrease in shipments being now reduced to about 7000 tons, so that this year, as near as may be, we shall have to rejoice over a trade in Pig-iron at least equal to that of 1869. The falling off, so far as we can make it out just now, is attributable to a reduced coasting trade; but then we have imported from Middlesborough 23,400 tons more of pig-iron than we did last year, so that the home consumption and export of the raw material will exceed 1869 by about 15,000 tons. The market is quiet, but steady, and prices since our last report have ranged between 51s. 6d. and 51s. cash, and 51s. 9d. and 51s. 7½d., 30 days, with only a limited business doing. To-day the market opened flat, and 51s. cash, and 51s. 4d. a month, was accepted for about 5000 tons, but it afterwards improved, and closed 51s. 3d. cash, and 51s. 6d. a month, at which about 10,000 tons were done. No. 1, g.m.b., 52s.; No. 3, 51s. 3d.; makers' iron, No. 1, Coltness, 61s.; Gartsherrie, 60s.; Shotts, 57s. 6d.; Langloan and Summerlee, 56s.; deliveries continue ex store, the price of stored pigs being under makers' quotations. The weekly shipments are returned at 10,632 tons, against 11,272 tons in the corresponding week of last year. Orders for Finished Iron, we are informed, are reduced to mere "ghosts" of orders; and most of the works are said to be working on the fag-end of what is booked. Prices are, for all kinds, weak and drooping, especially plates, which are quoted at a reduction of 20s. to 25s. a ton from their best this year. Of course, now, everybody is looking forward to the new year, in the "hope" that 1871 will see "swords beat into ploughshares," and commercial prosperity everywhere prevail. Would that it were come, if it is to bring with it the needed tranquility. Quotations are not well supported, and the great majority of second-class makers are now reduced to 7*l.* 10s. for common bars; first, 8*l.* (nominal); only one brand being 7*l.* 12s. 6d.; plates, ship, 8*l.* 7s. 6d. to 9*l.* 10s.; boiler, 9*l.* 5s. to 15*l.*; rails, 8*l.* to 8*l.* 5s.; rail-chairs, 4*l.* to 4*l.* 5s. The tin-plate works at Dundyvan are busy with orders for the preserved meat trade at the Antipodes; and the tube-makers have their full share of work. The new malleable ironworks at Holytown are well-nigh completed; and the addition to Jackson's works, outside Coatbridge, will enable them to add to their make almost immediately. The City of Edinburgh Road Trust has agreed to procure a 20-ton steam-roller, for use in the streets.

The Gartcosh Iron and Steel Company has been dissolved by the retirement of one of the partners; and the firm of Watson and Campbell, iron and steel merchants—from which Mr. James Watson has retired—is in future to be carried on under the same firm by Mr. Campbell alone.

At the Association of Engineers' monthly meeting, a thoroughly practical paper was read, "On Engineering Workshops and Tools." In the course of his remarks the writer explained at length the manufacture of slide-rests, and, by means of one kindly lent for the occasion, showed its application to the various kinds of work. He also submitted designs, made by himself, of a wall-planing machine and hydraulic lathe-bed, the consideration of which was postponed.

The price of Coals is well maintained, partly by the foreign demand, partly by the absence of supplies on account of the deficiency of haulage on the railways, and partly by the severity of the weather, which is aiding the home consumption. The returns from the Scotch ports of the quantity shipped during the week ending yesterday was 31,080 tons foreign and coastwise, against 28,520 tons in the same week of last year, with prices this year nearly 9d. a ton better, but miners' wages are 6d. a day higher. The Messrs. Baird have commenced sinking a new shaft on their recently-purchased property at Bailleston, and are also examining workings which have been abandoned, with the view of satisfying themselves that no beds of black diamonds have formerly eluded the diving-rod of the searchers. The miners in Fifeshire have been favoured with visits from Mr. McDonald, urging them to union, with the benevolent view of securing an advance of wages. The Kirkcaldy miners' delegates met in that town last Saturday, when it was reported that at two of the collieries the men had been advanced 2d. and 3d. a ton, and that similar advances had been promised at various other pits. The wages in Fifeshire are generally under those of Lanarkshire, from 6d. to 1s. a day, so that the above advance will only bring them up to nearly a par with the mines in the latter county.

At the Sheriffs' Court, Hamilton (before Sheriff Spens), Charles

Russell, engine keeper, residing at Flemington Bridge, Dalziel, was convicted of having assaulted William Twaddell, underground overman in the Pyotshaw seam of the Haughead Colliery, Hamilton, and sentenced to 30 days' imprisonment. Same place and time, it was decided that a collier, named M'Intosh, in the service of the Glasgow Iron Company, at Fairholm, had been, according to their rules, legally dismissed for "interfering with other workmen," and had thereby not only forfeited the wages for which he had wrought, but also the usual fortnight's warning to which he would have been entitled had he been dismissed in the ordinary course of events. The case has been appealed to the Circuit Court.

The launches from Clyde yards this week were the Mendez Nunez (screw steamer), of 2014 tons, and 400-horse power, for the firm of Lopez and Co., Cadiz. She is designed for the West India trade, and, besides having large carrying capacity, is fitted up as a first-class passenger ship, with special arrangements whereby she can be easily converted into a troop ship. Also, another screw, of 1975 tons, and 350-horse power, named (by Miss Langley, of London) the Coquimbo, intended for carrying goods and passengers between ports on the West Coast of South America. On the stocks in the same yard may be seen the outlines of three vessels for the same owners—Pacific Steam Navigation Company of Liverpool—each of 3200 tons, and 500-horse power nominal, in different stages of advancement. Another screw steamer, for the China trade, *via* Suez Canal, named the Enterprise; she is of 1750 tons, and 250-horse power, and has been built to the order of E. M. de Bussche, Ryde, Isle of Wight.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Dec. 15.—On the whole, the Iron Trade seems to be rather improving. Since fears of war with Russia have passed away orders have increased, and the works are rather better employed, both in North and South Staffordshire. The pig-iron market continues dull, except for the leading qualities, and stocks are said to be increasing, but this statement is hardly reconcilable with the fact that preparations are in progress in two or three parts of the district for increasing the number of furnaces in blast. In the meantime, the large importations of pig-iron from other districts tend to keep prices down, notwithstanding the dearness of ironstone, and all-mine is still quoted 4*l.* 10s. to 4*l.* 12s. for cold-blast, and 3*l.* 12s. 6d. to 3*l.* 17s. 6d. for hot-blast. Common forge stands at about 3*l.* Best Staffordshire bars are quoted 7*l.* 7s. 6d. to 7*l.* 10s. At the preliminary meeting, on the 29th inst., Mr. Frederick Smith will be succeeded as Chairman by Mr. J. P. Hunt, of the New British Iron Company, Corngreaves. Considering how near we are to Christmas, the position of the trade, with a serious war preventing the carrying out of railway enterprises, must be considered as, on the whole, encouraging.

The Great Northern Railway Company invite tenders for 4000 tons of double-headed steel or iron rails, with a puddled steel top, at the option of the directors, with fish-plates and cast-iron chairs.

The Staffordshire Coal Field.—The result of some recent trial sinkings for coal at Hednesford, in the Cannock Chase district, encourages the hope that important coal deposits will be found to exist between the old and well-nigh exhausted field of South Staffordshire and the new field in the northern part of the county. Little is at present known as to the number of the coal-bearing strata of this undeveloped district, but in the opinion of several geologists of experience the mineral resources of the neighbourhood are likely to prove all but inexhaustible. The trial shaft on Lord Dartmouth's estate at Sandwell is progressing satisfactorily. It is stated that an area of 112 square miles yet remains to be proved on the borders of the South Staffordshire coal field, and some authorities on the subject are sanguine enough to hope that the existence of coal will yet be proved between South Staffordshire and Warwickshire on the one hand, and South Staffordshire and Shropshire on the other.

East Staffordshire and East Worcestershire Institute of Mining Engineers.—A postponed monthly meeting of members was held on Monday, in the Geological Museum, Dudley, the President (Mr. W. North) in the chair. An application from the hon. sec. of the Mechanics' Institute Chemistry Class, for support, was left in the hands of the hon. sec. (Mr. Henry Johnson), the meeting being of opinion that it was desirable to encourage the study of chemistry, especially in relation to the mine, providing terms could be agreed upon. —Mr. Harrison, of the Whatnall Colliery was elected a member of the institute.

The discussion upon Mr. Parton's paper, "The Great Symon Fault in Salop Coal Field: Is there Coal between the Black Country and the Shropshire Coal Field?" was then resumed. Mr. Johnson read letters of apology from Mr. J. Randall, F.G.S., Mr. Blakemore, and Mr. Madeley, each of whom regretted that they could not attend to take part in the discussion of the paper. Mr. Spence led an animated conversation upon the question by describing the Himley Collieries, and expressing slightly adverse opinions to those of Mr. Parton, reported on the first occasion. Mr. Johnson gave a *resumé* of the appearances along the line of the western boundary fault, showing the great disturbances, and affirming that in every instance upon record the red rock was reached when a head was driven through the coal to the fault. He suggested that every member of the institute having experience of the western boundary fault should prepare a section of uniform size, to be ready by the annual meeting, when the subject might be resumed.—Mr. Allport (a visitor) was rather inclined to the belief that there was denudation on both sides of the coal fields.—At the conclusion of the discussion the meeting was agreed as to the western boundary of the coal field being a downthrow fault, and that there was no evidence that the "estuary" (spoken of by Mr. Parton in opening), which has swept away so much of the Salop coal field, had reached the South Staffordshire coal field; therefore there must be some portion underneath the Permian and New Red Sandstone, though how far it might be to the eastern edge of the stream could not be settled without proof.—The discussion was then adjourned.—The President produced three bottles of water, which he said had been taken out of a "boring" in the blue rock at Oldbury, made by a friend of his. The water was of a dark colour and unpleasant smell, and he should like to know whether it was affected by any foreign body, or was a medicinal spring.—The contents of the bottles were then examined, and the members expressed themselves confident that the water was affected by the chemical refuse from the works in Oldbury, and instanced the volume of impure water found in sinking the blue billy pits in the locality.—The meeting then terminated.

The Dudley Correspondent of the *Wolverhampton Chronicle* writes:—

The iron trade in this district still continues active, and the mills and forges are being kept regularly at work "five turns" per week. Some of the leading houses in the trade have recently received several orders of considerable importance for Government purposes, and there is every probability of the various works being kept well in gear during the remainder of the quarter. The orders coming to hand are chiefly for small sizes. For rails, large plates, and the heavier sorts of merchant iron the market rules dull. At present there is a fair demand for pig-iron, but as there is a considerable quantity coming in from other districts the price is not so firm as it otherwise would be. Cold blast is realising from 4*l.* 10s. to 4*l.* 12s. 6d.; hot blast, all mine, 3*l.* 15s.; grey forge, from 3*l.* to 3*l.* 2s. 6d.; mottled, 3*l.*; ordinary melters, Nos. 1, 2, and 3, from 2*l.* 17s. 6d. to 3*l.* per ton. Of course, these prices are governed according to the circumstances of the producers. It must be admitted that neither as regards finished nor pig-iron is the declared list adhered to by the majority of the trade. There still continues a brisk market for thick coal, and the supply is hardly equal to the demand, although the output from the various pits is very considerable. The prices west of Dudley remain the same as they have been for the last twelve months—For works' purposes: Best, 12s. 6d.; common, 8s. 8d.; lumps, 7s. 6d.; and slack, 2s. 6d. per ton of 2240 lbs. to the ton. For household purposes they range somewhat higher. On the east side of Dudley coal realises considerably more per ton than the above quotations. It must also be added that in both the districts referred to many parties still continue to sell by long weight instead of the imperial standard, and, of course, at proportionately higher rates. The demand for ironstone, the produce of the district, remains good, and is still selling at our last quotations—12s. 6d. per ton for the raw, and 18s. 6d. for the calcined, short weight, of 112 lbs. to the hundredweight.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

Dec. 15.—Trade at the various ironworks in Derbyshire is now of a steady character, with every prospect of its opening well in the ensuing year. At no time has the production of pig-iron been so large as at present. At Staveley, Sheepbridge, and at the extensive establishments on the Erewash Valley line of railway, from Alfreton to Trent, the number of furnaces in blast bespeak the activity which prevails. In Manufactured Iron business is in about the same state it has been for some time, the foundries being kept well going, whilst there is a fair demand for plates and girders, and bridge material. There has been a little more doing in House Coal for London, although the prices remain unaltered, so that the Derbyshire coal is selling at 2s. per ton more than that from South Yorkshire. In steam coal there is not much activity, the season for shipments from the Yorkshire ports to the North of Europe having now terminated. A large tonnage is being sent to Wellingborough and the neighbourhood, for the use of the furnaces there. From the same district there has been a marked increase in the tonnage of ironstone sent into Derbyshire, and which will be considerably larger at the commencement of the new year.

The Sheffield trades are nearly all now in a healthier state than they have been. The armour-plate mills are in full swing, and as we have on more than one occasion adverted to the strong probability of a war in which most of the great powers in Europe will have to take part, they are likely to be busy for a long time, not only on account of foreign States, but more particularly on that of our own Government. With the movement made by Prussia, with a view to annexing Luxembourg, there can be no doubt but what the aggrandising policy of Bismark will have to be check-mated, and that any patching up of the matter at present will only lead to advantage of the delay being taken to more fully arm, and prepare for the inevitable war. Manufacturers of every description of warlike material are, therefore, likely to have a very active time of it.

A full average trade is being done at the collieries in South Yorkshire, but as yet there has been no change with regard to the traffic rate to the metropolis, so that the trade there, although good, is unremunerative. About an average trade is being done with Lancashire in engine fuel and other descriptions of coal. In the early part of the week several bodies were recovered from the Oaks Colliery, a junction having been effected between the old shaft and the new one at Ardsley. It is, therefore, not unlikely but what the large number of bodies, exceeding 100, still in the workings will before long be found, and interred in a more fitting place.

Great Draw of Coal.—On Wednesday a very large tonnage was drawn out of the Silkstone pit, at the West Riding Collieries, near Normanton, belonging to Messrs. Pope and Pearson. The Silkstone seam at this place is met with at a depth of 420 yards, and is only 4 ft. thick, worked entirely on the long wall system, as carried on in the Midland Counties. On the alone day they began drawing coal at six o'clock in the morning and finished at twenty minutes past four in the afternoon, having drawn out of one shaft 1113 tons of coal as the day's work.

Exploration at the Oaks Colliery.—The old workings at the Oaks Colliery, near Barnsley, which have been closed for four years, and which are known to contain a large majority of the 150 bodies still unrecovered, have been re-entered by means of a drift which now connects the new colliery at Stairfoot with the old workings. An exploring party being organised, the lower level was first explored for a distance of 240 yards in the direction of the box-hole without finding any water, or bodies, or accumulated gas. The absence of the latter is attributable to the fresh air from the new pits by means of the bore-hole having from the first commenced to draw inwards, and thereby to a great extent clearing away the gas. No falls of roof were found, the only obstacle in the way of the explorers being the uplifted roof, but what had been the water level was clearly indicated at the side. At the time the explorers entered 2000 cubic feet of fresh air was passing the communication. The top level was next explored, and was found to be comparatively clear from gas. In both levels the coal corves were smashed into shreds, and the bratticing completely carded. In the top level the bodies of Andrew Barker and his son Richard were found. The latter, it appeared, at the time of the explosion had been carrying his lamp in his hand. They were found close to the face of the coal, laid together. In both cases the features were well preserved. All the explorers who knew them in life easily recognised them. Foremost among the explorers was Mr. George Barker, underground manager of the Nunnery Colliery, Sheffield, son of Andrew Barker. He was the first to get at the bodies of his father and his brother. The explorers then returned and went to the leading end of the level, where Thomas Jones and his son were known to work. Here the bodies were also found lying close to the working-place, and were easily indentified. Along the whole distance there were not the slightest indications of any fire from the explosion having been there. The exploring party consisted of picked men, and there were also present the managing partner, Mr. Dymond, Mr. C. Johnson (Wath), the viewer, Mr. Minto, and Messrs. Beaumont, Embleton, jun., Carr, G. Barker, Ward, Wilson, Bennett, Dyson, Siddons, J. Barker, Clarkson, Fairhurst, &c. On the fact that the workings were reopened being known, great interest was taken in the proceedings by those who have husbands, relatives, and friends unrecovered. On Sunday afternoon experiments were made with a view of testing the unexplored distance from the side of the new drift to the old workings. Mr. Minto, the viewer, Mr. Beaumont, Mr. G. Barker, and others remained on the side of the explored workings, while some men went down the old shafts and along the old workings until they met with a large fall, when they rapped at the fallen material. Those on the drift side distinctly heard the strokes, which sounded as if 20 or 30 yards distant. It is expected a communication will be made in a few days, when several more bodies will be recovered. During the explorations some large cracks were found at the face of the solid coal in the levels named, which shows the explosion must have been terrific.

THE FOREST OF WYRE COAL FIELD.

BY DANIEL JONES, F.G.S.

Most coal fields of any importance have their share in the scientific or economic literature of the day, and if that which we are now about to treat of has hitherto been comparatively neglected it is not due to any insignificance of area, but to the nature of its deposits, so far, at least, as they have been hitherto explained. The whole area of exposed coal measures, taken from Bridgnorth to the Abberley Hills, may be estimated at 33,000 acres, or about half the size of the South Staffordshire coal field, and yet a very large number of persons who are daily concerned in coal mining never heard of the "Forest of Wyre Coal Field." Nor is there any very great reason why they should have done so, for its products, so far, have made no great stir in the world. Still, without any very great pretention, indeed we fear we may say though labouring under the misfortune of an ill name, it may yet fill up some of those terrible gaps in our coal supply which have been pointed to by Armstrong, Stanley-Jevons, and others. Much has been said of late respecting a development of our coal supplies beneath superincumbent strata, but it would seem to be almost a simpler solution of the difficulty if we could utilise the sulphurous coal seams of the younger coal measures, by discovering some means for dissipating the obnoxious sulphur. At least, it would delay the impending catastrophe, and smooth the way to the vastly increased cost of our mineral fuel if raised from immense depths. Should such a discovery be brought about we may yet see the Forest of Wyre coal field the scene of commercial activity, for the bulk of its deposits are of the younger age. In byegone times the charcoal of its forests, and its deep rapid streams, offered inducements to the iron smelter for the construction of his works, and there are several places in the district where iron making under the old method was carried on; the source of the ironstones being the two Clee Hills, known as the Titterstone Clee and Brown Clee. We shall have occasion hereafter to refer to this part ot the subject.

The principal feature of interest connected with this coal field is due to its proximity to the collieries of South Staffordshire and Shropshire, or rather East Shropshire, for that county contains several other coal fields. The question naturally arises—What is the relationship of the Forest of Wyre coal field to those whose fame has been so many years established by their respective treasures, Thick coal and Pennystone? South Staffordshire is separated from the Forest of Wyre by a distance of about 6¼ miles of the New Red Sandstone and Permian. Can so trifling a distance have given rise to any very great alterations in the character of the coal seams beneath? At a distance of 10 miles apart we have a deep sinking in each district—Shatterford deep pit, near to Upper Arley, in the Forest of Wyre, and Wassel Grove pit, in South Staffordshire. Mr. Jukes has correlated the Dudley with the Wyrley and Hednesford strata, some 14 miles apart: what can be done in this respect between the Wassel Grove and the Shatterford strata? Then, again, we pass over out cropping coal measures from Broseley, in East Shropshire, which have been more or less worked, until we reach Bridgnorth and the 33,000 acres of coal measures we are now treating of. Is there no relationship to be traced? Such are extremely important questions from an economic point of view, and excessively interesting geologically, and I may safely say that many lookers-on in the surrounding districts are eager for information on these points.

It has been my good fortune to be placed in the way of gaining an intimate acquaintance with the South Staffordshire, East Shropshire, or Coalbrookdale, and the Forest of Wyre; so that few persons, perhaps, have had more favourable opportunities of answering some of the questions which I have proposed. I must explain that I am under some disadvantages from not having placed before the reader a map of the coal fields, upon which I have shown, in variously coloured lines, the outcrops of the several coals and the spirorbis limestone. The publication of such maps is inconvenient when the columns of a newspaper are chosen as the medium of communicating ones views. I am compelled, therefore, to ask the reader who desires to study carefully the facts and arguments advanced in these papers to furnish himself with the two quarter-sheets, 61 S.E., and 55 N.E., of the Government Geological Survey at least, which will include the Forest of Wyre. But the most complete map would be 61 N.E. and S.E, 55 N.E., 54 N.W., 62 N.W. and S.W. These six quarter sheets, when laid together before one, will show the whole of the three coal fields—South Staffordshire, Coalbrookdale, and Forest of Wyre.

I need not here expatiate upon the advantages of a good map. I have known many mineral agents in some parts of the older districts put all maps aside, remarking that they had it all clearly laid before them in their minds; and no doubt this is commonly the case. The retentiveness of the memory is increased in proportion to the frequency with which it is employed. It is astonishing how quickly some persons, often little educated in other respects, will solve a problem by mental arithmetic, whereas another, of much better general education, takes double the time to work it out on paper. No geologist will be without good maps of the districts in which he works; and I trust, with the aid of those I have named, I may be enabled to make myself understood to my readers.

There is one other point in which my difficulties require to be explained. In treating of the geology of a coal field it becomes necessary to give the details of all the sections; but this can scarcely be done in the columns of a newspaper. I, therefore, propose to reduce them, by giving only the items coal, ironstone, and measures, unless some of the note worthy features, such as spirorbis limestone, should present themselves. In correlating the strata of districts, and especially coal fields, I have found it a very convenient method to call the section by some letter of the alphabet, and number the strata. Thus in two sections, A and B, the 5th stratum of the former is found to be the same as the 10th of the latter. This is conveniently expressed thus—A 5 = B 10. This method, which is very simple, I propose to adopt.

The following account does not pretend to be in any way exhaustive of the subject; indeed, many points yet remain unsolved in my own mind—as, for instance, the age of some of the faults, the correlation of the Shatterford deep pit section, and the nature and direction of the Shatterford dyke, south of the Folly point, on the Severn. I trust, however, these papers may form the groundwork upon which geologists may proceed in the future. The reader will have most of the material placed before him from which I have drawn my deductions, and thus will be enabled to judge of their reasonableness, or if he likes may form other conclusions, according to his own judgment.

It will be observed that I have dwelt very shortly upon the fossil remains contained in the strata; they are mostly of the type belonging to the younger coal formations, which have been before described. Nor have I searched the district with the eye of a palæontologist, but rather as a field geologist, my object being to write a stratigraphical account, in the manner, as far as the materials would allow, of Jukes's Memoir on the South Staffordshire Coal Field.

When it is remembered that the Forest of Wyre coal field has never been regularly surveyed by the Government staff, except as to its superficial extent, and so far as to take two lines of horizontal section through it, the descriptions to which are most meagre, so far as this coal field is concerned; when, again, we think of the very feeble and unscientific manner in which mining operations are carried on, and the singularly crude views of those who are thus employed, some idea may be gathered of the difficulties in ones way. I am fully convinced that if I had taken notice of what I gathered from conversations with the colliers I should never have unravelled the mysteries of this district. I must, however, except one person from any charge of this kind—Mr. Robert Jones, of the Harcourt Colliery, near Kinlet. We had been reading the coal field, with the aid of a Government Geological Survey map; and it was very singular, on comparing notes, how nearly we corresponded in our views.

Referring back to the quarter sheets 55 N.E. and 61 S.E., let me guide the reader round the area of exposed coal seams with which we propose to deal,—in the first place premising that the area usually known as the Forest of Wyre coal field, ranging from Bridgnorth to Abberley Hills, is about 17 miles long; its greatest width, say from Shatterford to Kinlet, being about 8 miles. It occupies a space extending over a little more than 51 square miles; its area in acres is about 33,000, and of this a small portion lies in the county of Stafford, which runs into the county of Shropshire in a very singular manner at upper Arley; about 12,360 acres are in the county of Worcester. The whole range of its western boundary rests upon the Old Red Sandstone, and is represented by an irregular line, according to the unevenness of the Old Red, upon which the coal measures were deposited, and the after upheaval of the strata. Thus the line left by subsequent denudation is extremely indented and irregular. This western boundary is also marked by an isolated patch of the coal measures, which, through the protection of a fault running along its eastern boundary, has escaped the complete denudation that has carried away the coal measures undoubtedly once stretching further to the west. This is indicated by small patches of coal measures, not shown upon the maps of the Geological Survey, which are, however, occasionally met with in depressions of the Old Red Sandstone to the west. Such patches being occasionally found in draining has induced hopes in the minds of the farmers and small proprietors of finding valuable deposits. In one case, near Cleobury Mortimer, where the patch is of larger proportions, and shown upon the Government Survey maps, a considerable sum of money was expended in sinking. Even recently the proprietor had been told by "a gentleman from London" that valuable coal seams might be met with under the property. A glance at the maps of the Geological Survey would soon convince one of the impossibility of such being the case. However, from what I could learn, the character of the strata accorded, as one would have expected, with the Forest of Wyre deposits, belonging to the younger strata, and not with the Cornbrook or the Clee Hill deposits, which are the lower portion of the older coal fields of Shropshire.

It is very singular that people will not use the means they possess of gleaning information upon these subjects. It is very little known amongst the yeoman and farmer class that such maps are to be obtained, with horizontal sections running through most districts, especially such as are of a mineral character. The Geological Survey maps are not sufficiently advertised through media which will reach such people. The learned and scientific part of the community have ample means of knowing what may be obtained from the Survey Office. Many persons were astonished at my maps, and nearly all thought that the colouring was my own, and were, of course, much delighted to hear they could be purchased.

THE TERRITORY OF IDAHO, UNITED STATES OF AMERICA.

Great as have been the mining successes of California, Nevada, and Colorada, the Territory of Idaho bids fair to eclipse them, brought as it is now within the range of the Central and Union Pacific Railway. Within 160 miles of that railway exist mines of the greatest wealth, whilst the abundant supply of wood and water admit of their development in the most economical manner. Any amount of labour can also be obtained, as cheaply as in any other of the Pacific States.

At the present time the attention of geologists and miners who have studied the mineral resources of America, on the Pacific side, is more particularly directed to the great discovery made on a ledge, or lode, generally known as the "Atlanta." Mr. J. Ross Brown, Commissioner to Report on Mining Statistics to the United States Government, in his report published in the year 1868 says:—

"No district in the Territory is more favoured in respect to the supply of wood and water than the Middle Boise, or, as it is now known, the Atlanta and Yuba, situated in Alturas county, 16 miles south-east of Rocky Bar, the county seat on the Middle Boise River, at the junction of the Yuba. The district embraces the country lying in the forks of the two streams, and adjacent. These streams afford magnificent water-power for the propulsion of machinery. The new town of Atlanta is here situated, on a gentle slope in the valley near the Middle Boise River. Along the base of a lofty mountain, called Mount Forsyth, burst forth innumerable hot and boiling springs, throwing out large volumes of water, which, falling into the river, prevent it from freezing, or closing with ice, during the most rigorous winter. In the district is the Atlanta lode, already traced for miles in length. Selected ores from this lode assay as high as $11,000 per ton in silver, and in some places it is equally rich in gold."

Subsequent working has proved that this lode is practically inexhaustible, and a recent report on a small section of that ledge made by an English miner (Capt. Wm. Nancarrow), especially engaged by an English party to examine and report upon it, estimates that in the short space of some 300 feet the reserves already laid open are valued at over 600,000*l.*, after deducting all cost of raising, milling, and reducing. But here, as in all other new countries, capital is required to bring this wealth to market. English capitalists are apt to say when mention is made of such enormous discoveries—Why do they not raise it? Why seek capital here to do it? The answer is simple. The pioneers of mining are for the most part poor men, who, although by their daily toil they may be able to discover these rich deposits, are unable to raise the capital required to develope and utilise them. In some instances they may find monied men to help them; but then when the discoveries are past doubt, the monied parties seek to take the whole to themselves, without benefiting the first discoverers. Hence it often occurs that there is no other resource but to find a market outside their Territory, so as to sell as a whole what they would only have been too glad to continue to work if they could have done so upon equal terms. Another point

that money is worth from 30 to 40 per cent. per annum in these parts, so that to raise assistance on mortgage is ruinous, and out of the question, especially with men who have become exhausted in scraping and partially determining the value of their property.

With this short introduction, opportunity will be taken at a future date to refer more in detail to the mineral statistics of the Territory of Idaho, and to point out the many advantages it possesses.

A TEN YEARS' RETROSPECT IN MID-ENGLAND.

The last month of the year 1870 seems an appropriate time for the different trading centres throughout this kingdom to take stock of their condition as districts having competitors, and as districts whose future depends more upon their own progress and inherent capabilities than upon their ancient prestige. In respect of coal and iron localities this juncture is especially appropriate for such a review, because the history of those allied industries is usually most clearly defined into periods of prosperity and adversity measured by durations of ten years. We propose to enquire—What, in the past decade, have the iron smelters in the coal field of Central England done to keep their district from drifting leeward in the tide which some people believe has set in against them?

This Journal is not prepared to maintain that South Staffordshire has done all that it could have accomplished; still, we have before estimated that from the old iron-producing districts that must not be looked for which we fairly demand from the localities of modern date, where the machinery has been laid down under advantages which the older districts have aided to bring about. Nevertheless, the sons of the men who have hitherto so successfully utilised what nature provided for them at their own doors, have done something to maintain the fame which they inherit. Many of them have applied to their smelting-furnaces better machinery for the injection of air—they have looked with more diligence after those causes of loss found in leakage and friction, they have put up stoves by which they have increased the temperature of the blast many degrees on an average, and they have utilised their waste gases. By these means together they have effected an economy of fuel to the extent, probably, of 5 cwts. of large coal and 15 cwts of slack to the ton of iron produced. More than this—by the improvements just mentioned those fuels can now be used, and those materials reduced, the qualities of which are such that it was not ten years ago thought possible that they could be used to produce iron in the blast-furnace. It is not difficult to discern that by these means the saving to the country which the modern iron smelters in South Staffordshire have effected is equal to the whole worth of the fuels and materials thus made available.

It may well be asked at this point if the quality of the iron made in the district under discussion is equal to what it was before these sources of economy were utilised? Quantity for quantity we do not believe that it has, for the diminishing supply of the finest ores and the purest coal of the district led to the using of the previously-thought useless products. But the rich hematite ores of other districts have come in to supply much of the deficiency. And where the pure argillaceous stone is still being smelted the regularity and uniformity in the pig-iron made is much more marked than it was at the pre-supposed earlier date. This increased uniformity every maker of finished iron knows well how to assess at its proper value. It is of greater importance to him at this than at any earlier date in the history of the application of iron to great constructive uses. Then, the variety of iron that the proprietor of the mill and forge has at his own door, by which the delicate process of skilful mixing is facilitated, has been largely increased by the adapting to pig-iron manufacture of the products which not that district purely, but likewise abutting neighbourhoods, have furnished. Thereby, iron suitable to a greater number of markets, and to a wider variety of uses, is being made in the Birmingham district at the present moment than was the case a decade since.

That which has been effected is neither the measure of the economy possible nor is it all that will be done in the Birmingham district, if we are to judge by the past, and by what our correspondents in that part of the kingdom intimate is likely. It may be looked for that ere the year 1880 has begun the remaining resources of the Central coal field will be economised, and the competition of the newer districts, to some extent, met by the still further increasing of the temperature of the blast. The greatest saving in that direction is practised in the Newcastle district, where such is the intensity of the blast that it will melt zinc. What was supposed to have been done there, in certain instances, was adverted to at a recent meeting of the Mechanical Engineers in Birmingham, but of the precise character of the progress made no one could speak with certainty. There is, however, no doubt that in the instances to which reference was made the blast has been made red-hot. This is accomplished by the substitution in the stoves of fire-brick instead of cast-iron pipes, more generally used. The great heat of the blast here mentioned has the effect alike of lessening the quantity of fuel used and of improving the quality of the iron by identical materials with every advance in temperature. The best Newcastle method, it is fair to conclude, will be adopted not alone in the Middlesborough but also in the Birmingham district.

A further source of economy may be anticipated in the use for the purposes of smelting of a proportion of thoroughly screened slack—such fuel as has been hitherto used at most establishments in the heating of the stoves, and in raising the steam of the blast-engines. Instances might be pointed out in which pig-makers have begun to avail themselves of this means of lessening smelting charges. To a larger extent than is likely to be found practicable at present this use of small coal will be found possible, in furnaces of a larger calibre than those generally seen in the West Midland neighbourhood. This brings us to what may be well regarded as likely to prove a means of further developing thrifty results. The Middlesborough smelters have abandoned the small type of furnaces in Staffordshire for those of a much greater height, and of larger internal dimensions. Herein they are assisted by the greater weights which their fuel is able to bear than the friable kind, wrought in Staffordshire, can carry. This question of the capacity of furnaces was likewise debated in Birmingham on the occasion to which we have already adverted, and it was the expressed opinion of some of the Staffordshire ironmasters present that no more economy is to be anticipated from further change in the capacity of their furnaces. Nevertheless, there are men there, amongst the most observant and the most scientifically educated, who not only do not share this view, but who, moreover, are preparing to make such changes in their subsisting plant as they believe will help them at once to effect as great a proportionate reduction in fuel as that which has resulted from their labours in the like direction in the past ten years. They will simultaneously bring down their common charges to the lowest practicable sum by the much increased output.

These men have made themselves fully conversant with all that is being done beyond their own district, and they believe in the possibility of the Birmingham neighbourhood still proving a highly remunerative raw iron-producing centre for very many years to come. Easy of approach, Oxfordshire and Northamptonshire will furnish them, at low prices, with almost unlimited supplies of iron ore, and the fuel yet remaining in Staffordshire, Warwickshire, and Salop is practically inexhaustible. Of this last statement we shall soon be able to adduce abundant proof.

The coal-bearing part of Central England is larger, as the Royal Coal Commission will show, than ever HUGH MILLER believed when he walked over it a quarter of a century ago. Confidently it may be anticipated that that fact, together with ordinary enterprise on the part of men who have spent nearly two millions sterling in the extant plant in that district will prolong to a very distant time the beneficial influence already exerted by the fuel and iron producing resources of Mid-England.

MANUFACTURING INDUSTRY OF SCOTLAND.

MESSRS. R. NAPIER AND SONS' SHIPBUILDING AND ENGINEERING WORKS.

No name is better known in connection with naval architecture than that of ROBERT NAPIER. For nearly a quarter of a century the firm of which he is the head has been before the world as the pioneers of iron shipbuilding, and even now they occupy a foremost place on the Clyde in the manufactucture of iron ships, marine-engines, and boilers. At the present time they employ between 2000 and 3000 men. This is a great falling off as compared with some former epochs in their history. During the American war, for example, Messrs. Napier and Sons employed between 5000 and 6000 workmen; but naval architecture, like every other industry, is liable to change and fluctuation, and trade is not quite so brisk as it might be. In giving our readers a description of Messrs. Napiers' works, we purpose to take the various departments in the order in which they were projected. There are, properly speaking, three separate establishments, the shipbuilding yard, the marine-engine department, and the Vulcan, or boiler shop.

The VULCAN is situated in Washington-street, near the Broomielaw, on the north bank of the River Clyde. It has been not inaptly styled the father of the engineering trade of Glasgow. Many of those who afterwards attained to eminence as manufacturers and engineers on their own account commenced their education here—notably, Mr. John Elder, the head of the large shipbuilding and engineering firm of Elder and Co. It was here that Mr. Robert Napier elevated himself from the position of a common blacksmith to be the first maker of marine-engines and boilers in Scotland. The turning point of his career was in 1823, when he made his first engine for the Leven, a steamer trading between Dumbarton and Glasgow. After that vessel had served its day the engine was taken out and removed to the Vulcan, where it is still exhibited, and where it has been examined with great interest by not a few eminent men, including, among others, Lord John Russell and the ex-Emperor of the French, as Mr. Robt. Napier's first engineering effort. The Vulcan is now principally devoted to the manufacture of marine boilers. It is well stocked with machinery of all kinds, and employs at the present time about 300 hands. The buildings are rather antiquated, and part of them, since the removal of the engineering department to Lancefield, have been altogether disused. At the present time the firm are endeavouring to dispose of the Vulcan, with the view of having all their works connected, and there can be little doubt that the amalgamation of their premises would tend to their advantage and convenience. There are a number of powerful shearing and punching machines in the Vulcan, together with a whole array of smiths' hearths. About these there is nothing specially noteworthy. A steam riveting machine reminds one of the time when Messrs. R. Napier and Sons had to do this work by a process which entailed 20 times more labour. In another corner there is a planing machine, adapted for the exigencies of boiler work. Where plates are of a great length this appliance saves much time and labour by the ease, facility, and smoothness with which it does its work. Throughout the Vulcan there are a number of travelling cranes advantageously placed, and capable of lifting weights up to 10 tons. Weston's defferential pulley blocks are attached to several of the machines, and are found to be of great service. Several small furnaces, of the ordinary kind, for heating rivets are in constant use, as well as a number of Dudgeon's patent tube expanders, which work up to 5 inches.

A rather ingenious apparatus, which is specially adapted for this kind of work, is a drilling machine, which can be used either as a single or as a multiple drill. There is ample provision in the way of minor utensils, but, of course, as only one description of article is manufactured there is not great variety. Boilers of the largest size can be, and are often, made; and so extensive are the appliances at command that during the time of the American war, with a staff of 400 workmen, the firm were able to turn out a couple of boilers every month for the blockade runners then in course of construction. Some idea of the extent of the work carried on here may be conveyed by the fact that within the last year the boilers made by the firm would represent about 2000 horse-power nominal.

An engineering department of limited extent (we speak only so far as the work now done is concerned) is attached to the Vulcan, and contains some splendid and valuable machinery. One planing machine, by a Manchester firm, will plane 22 feet long by 6 feet broad Near by is a lathe, where crank shafts of the largest size are turned. Here and there may also be seen a number of swing cranes, for lifting castings and forgings, some of them very powerful. One instrument here of great value and importance is the horizontal boring mill. In using it the cylinder is travelled along a line of rails within the range of the crane, by which it is fixed on to the machine. The bar then passes through the centre of the forging, and a number of cutters, belonging to an apparatus attached to the bar, bore holes of the exact size required. A multiple drill is used here for boring rivet holes, instead of punching them, in boiler plates of extra thickness; and near at hand may be seen a morticing machine, by which the plate can be drilled and passed along at the same time, obviating a great deal of manual labour. The whole of the machinery in the engineering department of the Vulcan is driven by a beam-engine of 18-horse power. A great part of this establishment is now dismantled, although one large loft, which was formerly used as a pattern shop, is filled to repletion with thousands of different patterns, accumulated during the course of about half a century. These patterns form, of course, a very useful "library of reference." In the Vulcan there is scarcely enough of yard accommodation, but the works otherwise are substantial and commodious, and, despite their antiquity, may well serve to carry on a prosperous business for many years.

The LANCEFIELD WORKS were entered upon after it was found that the Vulcan did not afford sufficient accommodation and appliances to meet the requirements of the firm. Lancefield is also on the north bank of the Clyde. The works comprise a boiler yard, a large draughting loft (where designs for boilers and engines can be drawn out to the full size), smiths' and erecting shops, an engineering department, and a brass foundry, with a large and handsome suite of offices. The premises are ample, regular, and well adapted for the purposes required. A great part of the machinery is identical with that contained in the Vulcan. A plate-bending machine of the usual construction is capable of bending a plate of 10 ft. broad. There are several heating furnaces, where scrap iron is re-heated, and improved in quality, after which it is used for particular forgings. The smiths' shop which is easily accessible in every way, has a roof of two spans, supported on iron pillars. It contains six steam-hammers, Rigby's patent, varying from 1 ton to 2½ cwts. About 40 smiths' hearths are kept constantly going, a large fan, driven by a bell pulley off the main engine supplying the necessary blast, which can be increased or diminished at pleasure. All the working parts of the engines, except the heaviest forgings, are made in this department. An ordinary single-flued furnace boiler, covered with bricks, and from which pipes lead off in all directions, supplies the steam to the hammers. The erecting department, which opens directly out of the smiths' shop, is unusually well supplied with travelling cranes. We here find a marine engine built on the compound principle, of 150-horse power, in course of construction. Three engines of the same kind have been turned out during the current year, two being of 400, and the third of 500-horse power. Amongst the other machinery in the erecting shop a vertical drilling machine, supported on a strong framework attached to the wall, and capable of operating on a 7-in. spindle; a radial drilling machine, in the working of which the drill can readily be shifted to a different part of the cylinder; and self-acting screw-cutting lathes of the largest size deserve to be mentioned.

A beam engine of 30-horse power drives all the machinery in this part of the premises. A little further on we come upon a double planing machine, with two cutting heads, which can plane two different pieces of work at the same time. This table, which is said to be the largest of its kind in this country, has a travel of 30 ft., and is 9 ft. in breadth. A plentiful supply of shaping and slotting machines may likewise be seen in operation here. A 25-in. centre screw-cutting lathe, with a gab-bed, and self-acting in every direction, is a rather exceptional appliance. This machine is capable of cutting a screw to a pitch of 18 in., single thread. A slotting machine, designed by Mr. John Elder, when he was manager for Messrs. R. Napier and Sons, is still used as one of the most effective of its kind. Other two slotting machines, of the largest size used in marine engineering establishments, are also employed. In the furnishing shop, or as we have already termed it the engineering department proper, the machinery is driven by a crank overhead engine of 25-horse power. A large Cornish boiler on the other side of the yard supplies the steam to this engine and the engine in the erecting shop. There are no specialities in the finishing shop deserving of particular mention, but the visitor cannot fail to be struck with the immense quantity of valuable and excellent machinery of modern construction whic h is in constant motion. Indeed, with their present appliances Messrs. R. Napier and Sons could turn out at least double the quantity of work they ordinarily execute, so that they are in a position to meet any exigencies that could possibly arise. The brass foundry, which stands by itself on the other side of the yard, is a roomy, and like the majority of such places, a gloomy establishment. All the brass work required in connection with their own business is executed here. There are two large heating furnaces and six small ones, but the former are rarely used, except for very heavy castings In one of the smaller furnaces as much as 140 lbs. can be cast with ease, and in the larger furnaces castings have been done up to 9 tons. At the time of our visit a stern tube screw shaft of 25 ft. long was in process of construction. Before taking leave of the Lancefield Works we should mention that the firm have a large river frontage and a commodious dock, connected with which there is a large pair of shears, capable of lifting the heaviest weights. Commodious joiners' and pattern shops are connected with the dock, where all the cabin work required for the vessels built by Messrs. Napier and Sons is executed.

The shipbuilding yard is situated at Govan, about two miles down the river. For a long time this was, without exception, the largest yard on the Clyde, and employed the largest number of hands; but Messrs. John Elder and Co. now claim pre-eminence in each of these respects. The workshops and offices at Govan cover an area of about 10 acres, and additional ground has been acquired on the other side of Govan-road, where it is proposed to erect new buildings. There is a frontage to the Clyde, which will admit of eight vessels being constructed at the same time. The principal feature of the yard is the machinery shop—an ample erection, about 300 ft. long, by 150 ft. broad. The roof is in three spans, and the shop is open towards the river. It contains a number of plate and bar furnaces, three of them being constructed on Govan's patent gas regenerative principle. The machinery is driven by a condensing-engine of 25-horse power, to which steamis supplied by a horizontal two-flued boiler. Three vertical boring machines, and six punching and shearing machines of the ordinary kind; a horizontal punching and shearing machine by Craig and Donald, engineers, Johnstone, the gearing of which is below the ground; a rolling machine, specially provided with a high pressure engine of 10-horse power, capable of rolling a 2-in. plate; and a steam-hammer, are the most noteworthy appliances in this department. There are also, however, two sets of fans, introduced by Mr. James Napier, which supply the blast to 100 fires, and a large number of naptha lamps are used throughout the yard here. The smiths' department, which is entered from the machinery shop, is 150 ft. long by 40 ft. in breadth, the roof, through which light is supplied, being of one span. It is walled in on every side, being in this respect unlike a number of other smiths' shops on the Clyde. Six steam-hammers, ninety-four fires, and a number of small cranes, constitute almost the only appliances required in this building. On the west of the machinery shop, which, by the way, occupies the central position in almost every shipbuil ling yard in this district, there is a large saw-mill, 120 ft. long by 90 ft. wide; it is divided into two sections, and open at both ends, an arrangement which is now generally adopted.

There are two frame and three circular saws, a small steam-engine being attached to one of the former. The others are driven by belts, communicating with the main engine. Above the saw-mill the joiners' shops are situated, but as both appliances and premises are of the usual kind, we can find nothing worth mention in this department. Abutting on the western boundary wall there is a spacious erection, devoted to boat-building purposes, and the storage and manufacture of spars. Above the spar-shed there is a moulding-loft, which is so large that the full-sized outlines of a vessel of 5000 tons may be drawn on the floor. The drawings, which come in the first instance from the draughtsmen, whose duties in regard to iron shipbuilding are similar to those of architects in regard to the erection of houses, are in the moulders' loft enlarged to the full dimensions in chalk, so that the dimensions of each component part of the vessel can be exactly ascertained. On the floor of a workshop adjoining this loft, the floor of which is paved with blocks of cast-iron, pierced at regular intervals with holes, about 1 inch in diameter, full-sized outlines of the frames of vessels are drawn in chalk. After the floor has been prepared by placing a series of pegs in the holes bordering on the chalk line, the iron bar intended for the rib is taken out of the heating furnace, and by pressure against the pegs, and some hammering, is easily brought to the required shape. In addition to the offices, which are large and handsome, there only remains to be noticed a small engineers' shop, which contains, along with the usual machinery, a hydraulic-press, for bending armour-plates, but which, of course, is only used when the firm have work on hand for the navy of this or some other country.

Before concluding this article we may mention that Mr. Robert Napier, who now resides at Shandon, and takes no personal superintendence of the business, was last year created a "Commander of the Most Ancient Order of the Danneborg, First Class," by the King of Denmark, in consideration of the services which he had rendered in naval architecture. At the Paris Exhibition of 1855 he was made a Chevalier of the Legion of Honour, and was awarded the great gold medal of honour, as an acknowledgment of the great and uninterrupted success which had attended his labours in connection with steam navigation. The firm of Napier and Sons have supplied some of the finest vessels in the Cunard line of steamers'; several ships of war, including the Black Prince, the Hector, and the Hotspur, for the Admiralty, and a host of other vessels for France, Russia, Turkey, Denmark, and Holland. In 1853 they fitted up the machinery of Her Majesty's ship Duke of Wellington, which, according to "Men of the Time," in which Mr. R. Napier has found a place, was then regarded as the largest ship in the navy. At the present time they have two gunboats, named the Kite and the Bustard, on hand for the Admiralty.

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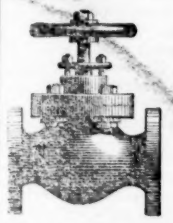

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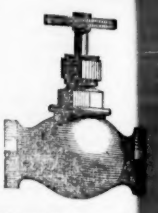

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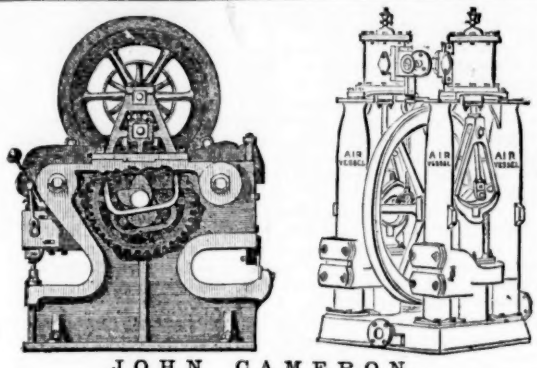

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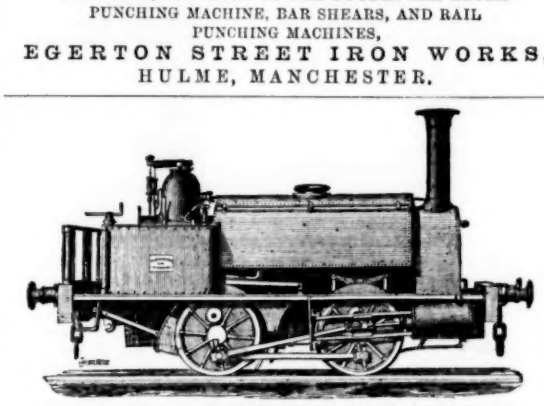

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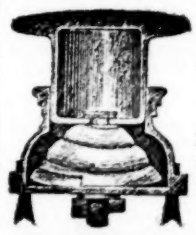

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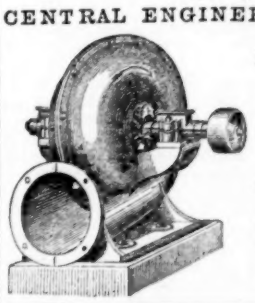

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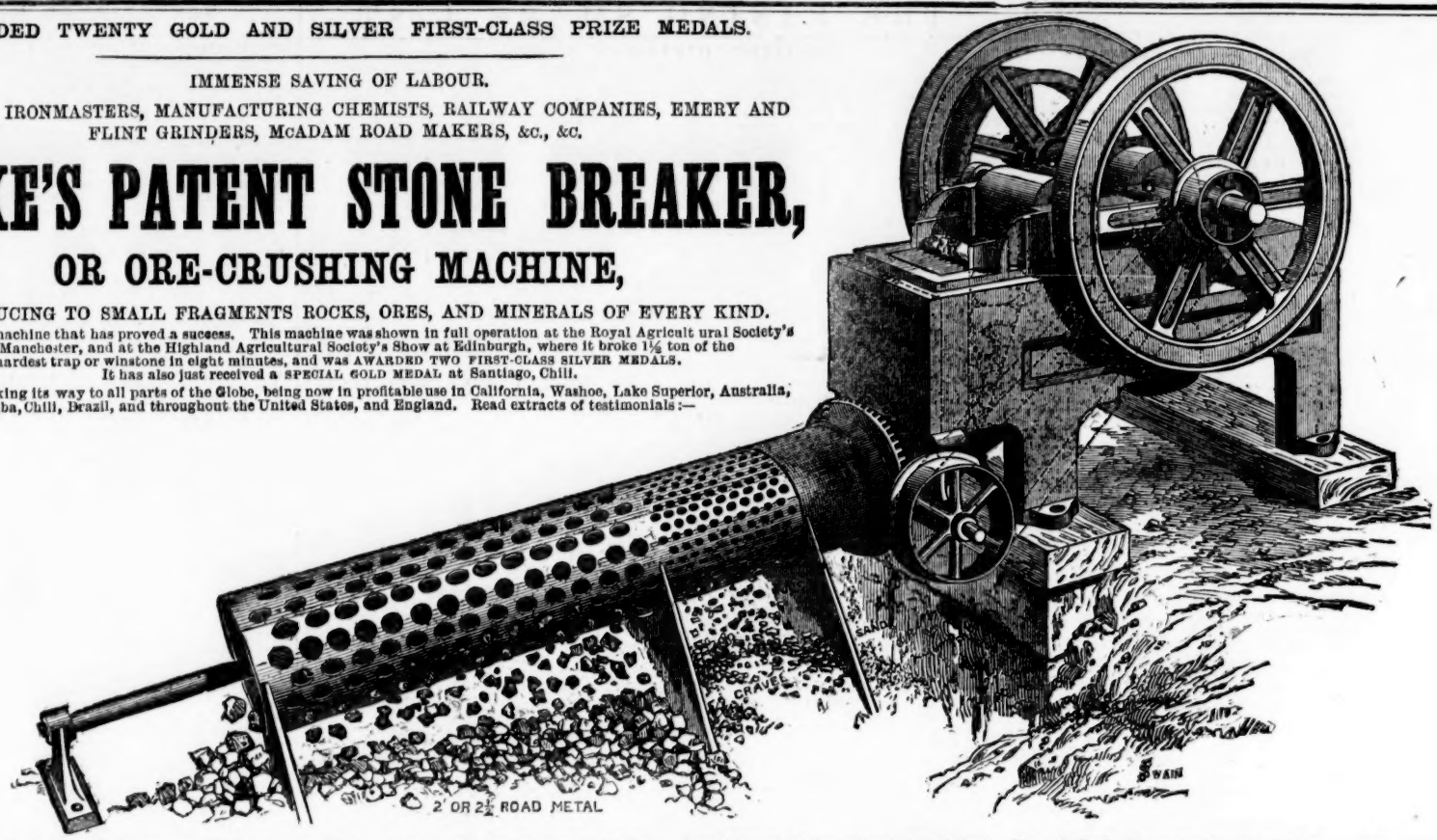

The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last 12 months, and Capt. Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company.
H. R. Marsden, Esq. JAMES WILLIAMS.

Eton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaws about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stone and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard winstone in 20 minutes, for fine road metal, free from dust. Messrs. ORD and MADDISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.
JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Frémont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or $75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate.
SILAS WILLIAMS.

Your stone breaker gives us great satisfaction. We have broken 101 tons of Spanish pyrites with it in seven hours.
H. R. Marsden, Esq. EDWARD AARON,
Weston, near Runcorn

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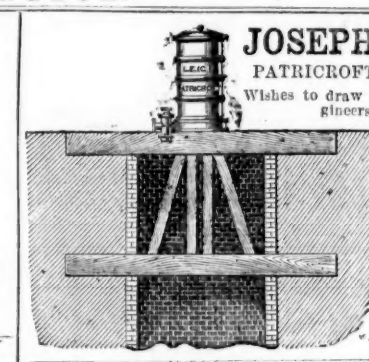

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This NEW RESPIRATOR is offered to the public as an INVALUABLE MEANS for SAVING LIFE and PROPERTY.

CERTIFICATE.

"*I have used it successfully at several fires, and can with confidence recommend it as one of the most useful inventions that has ever been discovered to assist firemen in the discharge of their duties.*
(Signed) *ALFRED TOZER,*
Superintendent Fire Brigade, Manchester."

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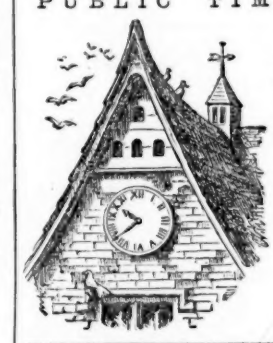

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"We find it a good lubricating oil, and very cheap."

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"The oil answers my purpose well."

From Messrs. RICHARD EVANS AND CO., Haydock Collieries.
"It answers quite as well as yellow grease (for railway wagons), and at a saving of forty-eight per cent."

From THOMAS EMMERSON FORSTER, Esq., Mining Engineer, Newcastle
"I find a saving upon four locomotives of £60 per annum."

From the LANCASHIRE AND YORKSHIRE RAILWAY.
"It kept the (fan) shaft perfectly cool, and with a less quantity."

From T. and W. CLARKE, Havelock Works, Leicester.
"Having fully tested its merits, I find it equal to the best lubricating oil have ever used."

From Messrs. HENRY BALFOUR AND Co., Leven, Fife.
"We are glad to say that it suits us admirably, and it gives us better results, at less expense, than other oils."

From CHATWOOD, STURGEON, AND CO., Bolton.
"The men were rather against it at first, but have now, by experience, learned to appreciate its good qualities. It answers our purpose so completely that we shall continue to use it and no other."

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WONDERFUL MEDICAL DISCOVERY,

Showing the true causes of Nervous, Mental, and Physical Debility, Lowness of Spirits, Indigestion, WANT OF ENERGY, PREMATURE DECLINE, with plain directions for PERFECT RESTORATION TO HEALTH AND VIGOUR IN A FEW DAYS.

The most important fact that these alarming complaints may easily be removed
WITHOUT MEDICINE
Is here clearly demonstrated, and the entirely new and highly successful treatment, as adopted by the author, fully explained, by means of which
EVERYONE IS ENABLED TO CURE HIMSELF
Perfectly, and at the least possible cost.
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Shares.	Company.	Paid.		Price.	
£100	John Abbot and Co. [L.]	£ 75 0 0	20	15	dis.
50	Blaenavon Iron and Steel Co. [L.]	7 10 0		—	
100	Bolckow, Vaughan, and Co. [L.]	30 0 0	33	34	pm.
100	Brown, John, and Co. [L.]	70 0 0	3	1	dis.
10	Consett Iron Co. [L.]	7 10 0	4	4½	pm.
100	Cammell and Co. [L.]	80 0 0	17	15	dis.
32	Ebbw Vale Co. [L.]	27 10 0	9	8¼	dis.
20	General Mining Association [L.]	20 0 0	4	7	
15	Hopkins, Gilkes, and Co. [L.]	10 0 0	⅞	⅝	dis.
10	Ironmasters' Company [L.]	10 0 0		—	
10	Midland Iron Co. [L.]	5 0 0	22	22½	pm.
2½	Mersey Steel and Iron Co. [L.]	11 10 0	8⅜	7⅞	dis.
4	Mwyndy Iron Ore Co. [L.]	3 10 0	2½	2	dis.
1	Nerbudda Coal and Iron	0 7 0	par.		
25	Palmer's Shipbuilding and Iron Co. [L.]	25 0 0	1¼	¾	dis.
35	Ditto ditto	35 0 0	1¼	¾	dis.
100	Parkgate Iron Co. [L.]	65 0 0	6	4	dis.
20	Patent Shaft and Axletree Co. [L.]	10 0 0	5¼	—	pm.
50	Rhymney Iron Co. [L.]	50 0 0	21	19	dis.
15	Ditto New	15 0 0	6½	5⅛	dis.
50	Shotts Iron Co.	50 0 0	21	19	dis.
100	Sheepbridge Iron and Coal Co. [L.]	55 0 0	17	16	dis.
100	Staveley Iron and Coal Co.	60 0 0	40	45	pm.
100	Ditto ditto New	10 0 0	8	9	pm.
100	Thames Iron Company	100 0 0		—	
7½	Titanic Iron and Steel	5 0 0		—	
100	Vancouver Coal [L.]	6 0 0	par.	1	pm.
10	Van Iron Ore [L.]	10 0 0		—	
100	Wigan Coal and Iron Co	100 0 0	10	8	dis.
75	Ditto ditto	75 0 0	10	8	dis.

THE MINING SHARE LIST

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500	Alderley Edge, c, Cheshire*	10 0 0	—		10 6 8	0 5 0	Jan. 1869
6000	Boscaswell, t, c, St. Just	1 0 0	—		0 2 0	0 2 0	Apr. 1870
200	Botallack, t, c, St. Just	91 5 0	220	220 225	585 5 0	5 0 0	Nov. 1870
20000	Bronfloyd, l, Cardigan*	2 10 0	2¼	2 2½	2 10 0	0 1 0	Oct. 1870
4000	Brookwood, c, Buckfastleigh	1 16 0	—		0 15 0	0 2 6	Nov. 1870
5094	Bwlch Consols, s-l, Cardigan*	4 0 0	2¼	2 2¼	0 9 0	0 2 0	May 1870
6400	Cashwell, l, Cumberland*	2 10 0	—		0 12 6	0 3 6	Sept. 1870
916	Cargoll, s-l, Newlyn	16 5 7	1¼	1 1¼	16 15 0	0 10 0	Aug. 1869
1280	Chanticleer, l, Flint	0 7 8	—		0 1 0	0 0 6	Nov. 1868
2450	Cook's Kitchen, c, Illogan‡	19 14 9	19	17⅛ 18	4 13 0	0 10 0	Oct. 1870
867	Cwm Erfin, l, Cardiganshire*	7 10 0	—		32 8 0	0 5 0	Oct. 1870
128	Cwmystwith, l, Cardiganshire	60 0 0	—		387 10 0	2 0 0	July 1869
280	Derwent Mines, s-l, Durham	300 0 0	—		177 0 0	2 10 0	July 1868
1024	Devon Gt. Consols, c, Tavistock†	1 0 0	100	95 100	1149 0 0	4 0 0	Nov. 1870
656	Ding Dong, t, Gulval‡	49 14 6	16	15¾ 16	7 10 0	0 15 0	Aug. 1870
1432	Dolcoath, c, t, Camborne	32 4 6	130	125 130	251 2 6	3 0 0	Dec. 1870
12800	Drake Walls, t, Calstock†	2 10 0	1⅛	1⅛ 1⅜	1 3 3	0 1 0	July 1870
6144	East Caradon, c, St. Cleer†	2 14 6	6	5½ 6½	14 11 6	0 2 0	July 1867
300	East Darren, l, Cardiganshire	32 0 0	—		188 10 0	2 0 0	Sept. 1870
6400	East Pool, t, c, Pool Illogan	0 9 9	10½	10¼ 11	10 17 3	0 5 0	Nov. 1870
1906	East Wheal Lovell, t, Wendron	3 9 0	26	25½ 25¾	14 16 0	2 0 0	Nov. 1870
2800	Foxdale, l, Isle of Man*	25 0 0	—		76 15 0	1 0 0	Oct. 1870
5000	Frank Mills, l, Christow	3 18 6	1½	1½ 1⅝	4 8 0	0 2 6	Aug. 1870
3950	Gawton, c, Tavistock	3 10 6	—		0 3 0	0 3 0	Jan. 1868
15000	Great Laxey, l, Isle of Man*	4 0 0	18	17½ 18½	13 1 0	0 8 0	Sept. 1870
3000	Great Northern Manganese*	5 0 0	—		—	5 p.ct.	Feb. 1869
5908	Great Wheal Vor, t, c, Helston†	40 0 0	3½	3¼ 3¾	15 12 0	0 3 6	June 1870
10240	Gunnislake (Clitters'), t, c	4 19 0	—		0 2 0	0 1 0	Nov. 1870
1024	Herodsfoot, l, near Liskeard†	8 10 0	44	42 44	54 0 0	1 10 0	Oct. 1870
2000	Holmbush and Kelly Bray, c*	1 0 0	—		0 3 0	0 1 0	Nov. 1869
10000	Killaloe, sl, Tipperary	1 0 0	—	⅝ ¾	0 2 2	0 0 7	June 1870
165	Levant, c, t, St. Just	10 8 1	—		1101 0 0	2 0 0	Aug. 1869
400	Lisburne, l, Cardiganshire	18 15 0	—		529 0 0	2 0 0	Jan. 1870
3000	Maes-y-Safn, l, Flint*	20 0 0	—		4 0 0	0 5 0	Oct. 1868
9000	Marke Valley, c, Caradon	4 10 6	6¾	6½ 6¾	6 10 0	0 4 0	Oct. 1870
1800	Minera Mining Co., l, Wrexham*	25 0 0	—		282 3 3	4 0 0	Nov. 1870
20000	Mining Co. of Ireland, c, l, cl	7 0 0	—		0 4 6½	0 2 1	July 1870
6400	New Pembroke, t, c, Par Station	5 0 0	5	5 5¼	0 5 0	0 2 6	Nov. 1870
2000	North Levant, t, c, St. Just	10 12 0	11½	11½ 12	1 15 0	0 10 0	Aug. 1870
5610	North Wheal Crofty, c, Illogan†	3 11 3	1¾	1½ 2	0 4 0	0 1 6	Oct. 1870
256	Pendarves United, t, c, Camb.	86 0 0	62	55 60	15 0 0	5 0 0	Nov. 1870
5000	Penhalls, t, St. Agnes	3 0 0	—		1 13 6	0 4 0	Oct. 1870
500	Phœnix, t, c, Linkinhorne	50 0 0	—		456 10 0	7 0 0	May 1870
2000	Poldice, t, c, Gwennap	10 0 0	—		1 10 0	0 10 0	Oct. 1870
12800	Prince of Wales, c, Calstock	0 12 6	1	¾ 1	0 10 6	0 1 0	Nov. 1869
1120	Providence, t, Uny Lelant†	10 6 7	39	38 40	99 12 6	1 0 0	Sept. 1870
15000	Queen, s, c, Calstock*	0 10 0	—		0 1 0	0 1 0	Sept. 1870
5869	Rosewall Hill & Ransom, t	4 0 0	1¼	1⅛ 1¼	0 13 0	0 1 6	Dec. 1870
512	South Caradon, c, St. Cleer†	1 5 0	250	230 250	655 10 0	4 0 0	Nov. 1870
6000	South Darren, l, Cardigan*	3 6 6	—		1 1 6	0 1 6	Nov. 1870
937	South Wh. Crofty, c, Illogan	24 10 10	7	5 7	3 0 0	0 10 0	June 1870
496	So. Wh. Frances, c, Illog.†	18 18 9	30	28 30	374 13 6	1 0 0	Mar. 1868
242	Spearn Moor, t, St. Just	36 17 9	19	19 20	14 15 0	1 0 0	Oct. 1870
940	St. Ives Consols, t, St. Ives	10 15 0	—		0 10 0	0 10 0	May 1869
8771	St. Just Amalgamated, t*	3 10 0	—		0 2 6	0 2 6	Nov. 1869
508	Summer Hill, l, Mold	3 18 6	—		2 5 6	0 5 0	Feb. 1868
12000	Tankerville, l, Salop*	6 0 0	13½	13½ 14	0 10 0	0 5 0	Oct. 1870
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	45	43 45	27 8 6	1 10 0	Nov. 1870
2000	Trumpet Cons., t, Helston	11 10 0	22	21 23	11 12 0	0 15 0	Aug. 1870
12000	Van, l, Llanidloes*	4 5 0	55	54 55	2 15 0	0 15 0	Sept. 1870
3000	W. Chiverton, l, Perranzabuloe†	10 0 0	52	51 52	47 7 6	2 0 0	Nov. 1870
512	West Wheal Frances, t, Illogan	106 15 0	34	33 35	4 10 0	1 10 0	Oct. 1869
400	W. Wheal Seton, c, Camborne†	47 0 0	125	115 120	669 0 0	2 10 0	Dec. 1870
512	Wheal Basset, c, Illogan†	5 2 6	70	65 75	632 10 0	1 0 0	June 1868
512	Wheal Jane, s-l, Kea	10 15 0	57	55 57½	33 10 0	1 10 0	Nov. 1870
4295	Wheal Kitty, t, St. Agnes	5 4 6	8¼	8 8½	5 13 0	0 7 0	Nov. 1870
1024	Wheal Kitty, t, Uny Lelant†	3 10 6	11	10 11	12 12 6	0 10 0	July 1870
896	Wheal Margaret, t, Uny Lelant	13 17 6	7	8 9	78 15 0	0 10 0	Nov. 1870
1024	Wheal Mary Ann, l, Menheniot†	8 0 0	9	8½ 9	71 17 6	0 10 0	Dec. 1870
1000	Wh. Mary Hutchins, Plymp., t	2 12 6	—		0 10 0	0 5 0	Aug. 1869
80	Wheal Owles, t, St. Just‡	70 0 0	—		474 13 0	10 0 0	Nov. 1870
396	Wheal Seton, t, c, Camborne	60 0 0	25	25 27½	254 15 0	2 0 0	Feb. 1869
17000	Wicklow, c, t, Wicklow	2 10 0	8	8 8¼	50 2 6	0 2 6	Sept. 1870

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
35000	Alamillos, l, Spain*†	2 0 0	2¼	1¾ 2¼	0 13 0	0 2 6	Oct. 1870
130000	Almada&TiritoConsolidated, s*†	1 0 0	1	⅞ 1⅛	0 1 6	0 1 6	Oct. 1870
20000	Australian, c, South Australia†	7 7 6	—		0 1 6	0 0 6	Aug. 1868
15000	Cape Copper Mining*†	7 0 0	14	13½ 14¼	5 17 6	0 10 0	May 1870
30000	Central American Association*†	0 15 0	—		0 6 0	0 1 0	July 1869
21000	Colorado Terrible, s-l, Colorado*†	5 0 0	4¼	4¼ 4¾	0 2 6	0 2 6	Nov. 1870
10000	Copiapo Mining Co., Chili‡	16 10 0	3	2 3	0 4 0	0 4 0	April 1869
76162	Don Pedro North del Rey*†	0 14 0	2½	2¾ 3	2 3 9	0 4 0	Mar. 1870
70000	English and Australian, c‡	2 10 0	—		—	0 0 9	Feb. 1869
25000	Fortuna, l, Spain*†	2 0 0	2⅜	2¼ 2⅜	2 2 10	0 2 0	Oct. 1870
10000	Gonnesa, l, Sardinia*	5 0 0	—		10 per cent.		Aug. 1868
68000	Kapunda Mining Co., Austra†	1 0 0	⅜	⅛ ⅜	0 1 10	0 0 6	Nov. 1868
15000	Linares, l, Spain*†	3 0 0	3¾	3¼ 3¾	12 13 4	0 5 0	Oct. 1870
50000	Panulcillo, c, Chili*†	4 0 0	2½	2 2½	10 per cent.		Yearly.
10000	Pontgibaud, s-l, France†	20 0 0	17	16 17	7 1 8	1 15 6	Nov. 1869
100000	Port Phillip, g Clunes*†	1 0 0	1⅛	1 1¼	1 6 0	0 1 6	Jan. 1870
120000	Scottish Australian Min. Co.†	1 0 0	—		6 per cent.		Apr. 1870
11000	St. John del Rey, Brazil*†	15 0 0	25	24 26	81 10 0	4 5 0	Dec. 1867
15000	Sweetland Creek, g, California*†	4 0 0	3	3½ 3¾	0 8 0	0 4 0	Nov. 1870
50000	Victoria (London) [25000 £1 pd., 25000 12s. 6d. pd.]				0 9 7	0 0 7	July 1868

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
50000	Anglo-Argentine, g, s, Argentine Republic*†	1 0 0	¾	½ ¾	Fully pd.
20000	Anglo-Australian, g, Victoria* (£2 10s. shares)	1 5 0	—		Nov. 1870
100000	Anglo-Brazilian, g*†	0 12 0	—		Nov. 1869
12500	Anglo-Italian, g*†	1 7 6	—		Jan. 1868
20000	Arivaca, g, s, Arizona* (£10 shares)	2 10 0	—		Oct. 1870
20000	Australian United, g, Victoria*†	2 10 0	⅜	¼ ¾	Fully pd.
30000	Bellavista, s, Peru* (£1 shares)	0 15 0	—		Oct. 1870
50000	Braganza, g, Brazil*	0 15 0	—		Oct. 1870
20000	Capula, s, Mexico*†	2 0 0	1	½ 1	Fully pd.
30000	Chontales, g, s, Nicaragua*†	5 0 0	¾	⅛ ¾	Mar. 1868
100000	Cuiaba, g, Minas Geraes, Brazil	0 10 0	—		June 1870
20000	Eberhardt and Aurora, s, Nevada*	10 0 0	12	12 12¼	Fully pd.
100000	Eclipse, g, California* (£1 shares)	0 16 0	¾	⅝ ¾	Nov. 1870
15000	El Chico Silver Mining and Reduction Company*	5 0 0	—		Nov. 1866
40000	Fortune Copper Mining Co. of Western Australia	2 0 0	—		Fully pd.
50000	Frontino and Bolivia, g, New Granada*†	1 18 0	½	¼ ½	Nov. 1869
150000	General Brazilian, g* (£1 shares)	0 17 6	¾	⅜ ¾	Oct. 1870
25000	Guerrero, g, Mexico (total cap.—50,000 shares of £1)	0 10 0	—		Aug. 1869
100000	Imperial Ottoman, s-l, Turkey*	1 0 0	—		Fully pd.
50000	Javali, g, Nicaragua	2 0 0	—		Jan. 1869
7927	Lusitanian (Portugal)†‡ (£5 shares)	3 0 0	¾	¼ ¾	Dec. 1866
51000	New Quebrada, c, Venezuela*†	5 0 0	—		Fully pd.
50000	New Rosario, s, Mexico	1 0 0	—		Fully pd.
15000	Pacific, g, s, Nevada and California* (and reduced)	7 0 0	1¼	1 1¼	Fully pd.
80000	Pestarena United, g, Italy*†	3 0 0	¾	½ ¾	Fully pd.
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 15 0	½	⅜ ⅝	Sept. 1870
50000	Sao Vicente, Brazil*†	0 6 0	—		Oct. 1868
112500	Sierra Battes, g, California*	2 0 0	—		Fully pd.
60000	South Aurora, s, White Pine, Nevada*	5 0 0	5		Fully pd.
100000	Taquaril, g, Brazil* (£1 shares)	0 13 0	2⅛	2⅛ 2⅜	Sept. 1870
40000	Tuolumne, g, California*	2 0 0	2⅛	2 2⅛	Fully pd.
43174	United Mexican, s, Mexico†‡*	28 5 2	3	2 3	May 1868
30000	Val Antigoria, g, Italy*	1 12 6	—		Dec. 1869
80000	Worthing, c, South Australia*†	1 0 0	—		Fully pd.
75000	Yorke Peninsula, c, South Australia	1 0 0	¼	⅛ ¼	Fully pd.
45000	Yudanamutana, c, South Australia*†‡	3 0 0	⅞	⅝ ⅞	Fully pd.

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
12000	Assheton, l*, Carnarvonshire	5 0 0	4½	4 5	Fully pd.
12000	Cae Gynon, l, Cardiganshire*†	2 0 0	1	½ 1½	Fully pd.
1000	Carn Brea, c, t, Illogan‡	30 0 0	15	17 19	June 1868
3000	Chiverton, l, Perranzabuloe	11 5 0	1¼	¾ 1¼	Oct. 1870
3000	Chiverton Moor, l, Perranzabuloe	7 11 0	2¾	2½ 3	Feb. 1869
3000	Chiverton Valley, l, Perranzabuloe	8 10 6	3	3 3¼	Nov. 1870
32700	Conroy, l, Montgomeryshire*	3 0 0	—		Oct. 1870
512	East Basset, c, Redruth†‡	40 0 0	3	2 3	Mar. 1870
6000	East Grenville, c, Camborne	4 13 0	2½	2 2¼	Aug. 1870
1200	Fedw, l, Llanidloes*	10 0 0	—		Fully pd.
3000	Florida, s-l, Cardiganshire*	3 0 0	3		Fully pd.
5000	Gorsedd and Celyn Level, l, Flintshire	2 0 0	3¼		Fully pd.
6000	Hingston Down, c, Calstock†	6 4 0	⅜	½ ¾	Aug. 1870
400	New Wheal Seton, c, Camborne	70 0 0	—		Dec. 1869
695	North Roskear, c, Camborne	62 19 0	6	5 6	Aug. 1869
5936	North Treskerby, c, St. Agnes	1 16 4	—		Aug. 1869
15000	Penrhyn, l, Carnarvonshire*	2 0 0	1⅞	1⅝ 1⅞	Fully pd.
12000	Plynlimmon, l, Llanidloes*	2 5 0	2½	2⅛ 2⅜	Sept. 1870
1024	Rose and Chiverton United, l, Newlyn	8 0 0	10	9 10	May 1870
6123	South Condurrow, t, c, Camborne	5 5 6	3⅛	3 3¼	Oct. 1869
10000	Tan-yr-Allt, l*, Carnarvonshire	3 0 0	2	1¼ 1¾	Fully pd.
2000	Van Consols, Llanidloes, l*	2 10 0	2	1⅛ 1¾	Fully pd.
6000	West Basset, c, Illogan†‡	2 18 0	—		Sept. 1870
2288	West Caradon, c, St. Cleer‡‡	2 17 0	1⅛	¾ ⅞	Nov. 1870
12000	West Maria and Fortescue, c, Lamerton	3 13 0	1⅜	1¼ 1½	July 1870
12000	West Pant-y-Go, s-l, Flint*	1 0 0	1		June 1870
12000	West Tankerville, l, Salop	3 0 0	3	3½ 3¾	July 1870
6000	Wheal Agar, c, Illogan	8 8 6	1¾		Oct. 1870
512	Wheal Buller, c, Redruth†‡	38 5 0	2⅛	1½ 2½	Dec. 1870
5386	Wheal Crebor, c, Tavistock	2 15 6	⅝	⅜ ½	Sept. 1870
5724	Wheal Grenville, c, Camborne†	10 11 0	2⅛	2½ 2⅝	Dec. 1869
4096	Wheal Uny, t, c, Redruth	10 14 6	2¾	2½ 3	Oct. 1869

NON-DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
12800	Aberdaunant, l, Llanidloes*	5 0 0	—	
4000	Bedford Consols, c, Tavistock	3 2 6	3	3 3
4000	Bedford United, c, Tavist.*	3 16 2	1	1 1
20000	Blaen Caelan,* s-l, Cardig.	1 0 0	—	
5000	Blue Hills, t, c, St. Agnes	1 8 0	2½	2 2
25000	Brynambor, l, Cardigan	0 10 0	—	
1200	Bryn Gwyn, l, Mold*‡	9 0 0	—	
20000	Brynpostig, Montgomery, l*	1 0 0	—	
7500	Brynystwith, l, Cardigan*	2 0 0	—	
6000	Budnick Consols, t, Perranz.	0 15 0	—	
6000	Bwadrain Cons., s-l, Cardig.	3 5 0	—	
30000	Caldbeck Fells, l, Cumberld.*	1 17 6	1⅛	1¼
5000	Capel Banhaglog, l, Mont.*	3 0 0	3	
7000	Cappagh, c, Ireland*	1 10 0	—	
910	Caradon Consols, c, St. Cleer	33 16 0	—	
6400	Cardigan Bay, s-l, Aberyst.	5 0 0	10	10
6000	Carn Camborne, c, Cambrn.	3 2 6	—	
3000	Cefn Brwyno (lim. to £5)	3 0 0	—	
6000	Cefn Consols, l, Flintshire*	5 0 0	—	
3000	Chiverton Wheal Virgin, l*	0 5 0	5	5 5
256	Condurrow, c, t, Camborne‡	76 10 0	—	
1055	Craddock Moor, c, St. Cleer‡	15 8 0	—	
50000	Crenver & Wheal Abraham*	2 0 0	—	
4000	Cwm Ricket, l, Montgom.	2 15 0	—	
4000	Devon & Cornwall United	6 6 0	—	
5000	Dolwen, l, Cardiganshire	0 10 0	—	
30000	Dyliffe Consols, s-l, Mont.	1 0 0	—	1 1½
2586	East Bottle Hill, Plymp., t, c	1 6 6	—	
6000	East Carn Brea, c, Redruth‡	6 3 6	—	
4000	East Chiverton, l, Perranz.	3 18 0	—	
4000	E. Gunnislake & S. Bed. c	12 0 0	—	
2048	East Harptree, l, Mendips*	1 10 0	—	
10000	East Parys U., l, c, Anglesea	2 0 0	—	
350	East Plynlimmon, l, Llanid.*	18 10 0	—	
3640	East Providence, t, Lelant	7 6 9	—	
5610	East Seton, c, Camborne	1 12 6	—	
6000	East Wh. Reeth, Uny Lelant	1 8 8	—	
12800	Excelsior, t, c, Stoke Climsld.	0 3 6	⅜	¼
5000	Exmouth, s-l, Christow	0 7 6	—	1⅛ 1
12800	Florence and Tonkin United	0 3 6	—	
6000	Gen. Min. Co. for Ireland	7 0 0	—	
12500	Gilfach, s-l, Llangardock*	2 0 0	—	
40000	Glasgow Caradon, c* [30,000 £1 p., 10,000 15s. p.]			
5700	Goginan, Cardigan, l	12 10 0	—	
6144	Gonamena, c, St. Cleer	8 4 9	—	
5000	Gorn, l, Llanidloes	0 17 6	—	
4096	Great Caradon, c, St. Ive	5 0 0	—	
12500	Gt. N. Laxey (Isle of Man)*	1 0 0	—	
3035	Gt. Retallack, s-l, b, Perran.	3 8 0	1	¾
3000	Great Rock, l, Corwen*	4 5 0	—	
4096	Great Royalton, t, Roche	0 18 0	2	
6000	Gt. S. Chiverton, s-l, Perranz	2 15 0	—	
5143	Great S. Tolgus, c, Redruth	2 8 6	¼	⅛ ¼
12000	Great West Chiverton, s-l	2 10 0	—	
6000	Great Western, t, c, Breage	2 0 0	2	
1798	Gt. Wh. Fortune, t, Breage	31 7 4	—	
4096	Gt. Wh. Lovell, t, Wendron	1 0 0	2	1½ 1
12000	Gwydyr Park, l, Llanrwst*	1 5 6	—	
6000	Hammett, t, St. Neots	1 4 0	—	
6000	Harewood Consols	0 7 0	½	¼ ½
1000	Hemerdon U., t, Plympton	1 0 0	—	
6000	Hobb's Hill, t, St. Neot	0 1 8	—	
6400	Holyfield, l, Cumberland*	1 0 0	—	
962	Leeds and St. Aubyn, t, c	23 4 2	—	
5000	Llanarmon, Denbigh	2 0 0	—	
20000	Llywernog, l, Cardiganshire	1 0 0	—	
5120	Lovell, t, Wendron	0 3 0	—	
5120	Lovell Consols, Wendron, t	0 10 6	—	
4662	Minera Union, l [2500 £4 p., 2162 £2 15s. p.]			
3000	Mineral Bottom, s-l, Perranz	5 10 0	1	¾
6000	Mold, s-l, Flintshire*	5 0 0	—	
6144	Nangiles, t, c, Kea	7 6 0	1	
12000	Nanteos Consols, l, Cardigan*	1 0 0	—	
4000	Nanty, l, Montgomeryshire*	1 0 0	—	
10000	New Beldon, l, Northumb.*	0 10 0	¾	½
6000	New Brynpostig, l, Llanid.	2 0 0	—	
12000	New Central Snailbeach	1 0 0	—	
6000	New Clifford, c, Gwennap*	3 15 0	—	
6250	N. Crow Hill, l, St. Stephen	3 17 0	⅝	⅛
20000	New Grassington, l, York.*	1 0 0	—	
12000	New Trelawny, s, l, St. Ives	0 5 0	¼	⅛ ¼
14000	New Victoria, c, Ashburton*	1 0 0	—	
3000	N. Wh. Charlotte, t, c, St. Agnes	1 0 0	—	
4000	New Wh. Grylls, l, Perranz.	0 10 0	—	
4096	New Wh. Lovell, t, Wendron	3 4 6	1¾	1½
2000	N. Wh. Towan, c, t, Wendron	1 10 0	—	
6000	North Cornwall Kaolin*	0 5 0	—	
5000	No. Dolcoath, c, Camborne	4 3 0	—	
3457	North Downs, c, Redruth	5 17 10	—	
6000	North Jane, t, s-l, Kenwyn	5 1 0	—	
1000	North Lovell, t, Wendron	5 0 0	6	
5000	North Pool, c, Illogan	4 10 0	—	
12000	North Tankerville, l, Salop	1 0 0	—	
3000	N. Wh. Chiverton, l, Perran.	5 0 0	—	
10000	North Wheal Neptune, c, t	0 5 0	—	
12000	Ohio Crown, l, Isle of Man*	0 12 0	—	
12288	Okel Tor, c, Calstock	2 12 10	—	⅝ ⅞
8000	Old Gunnislake, c, Calstock	3 9 6	—	
20000	Old Treburgett, s-l, Cornwall	1 0 0	—	
6400	Par Consols, c, St. Blazey†‡	2 14 6	—	
12000	Parys Mountain, c, Anglesea	3 0 0	3	2½ 2
5694	Pedn-an-drea, t, Redruth	8 2 0	—	
20000	Pen'Allt, l, Carnarvonshire	2 0 0	1½	1¼ 1
5000	Pendeen Consols, c, St. Just	8 4 0	—	
1857	Penhale Wh. Vor, t, c, Helston	10 0 0	—	
12000	Perkins Beach, l, Salop	1 0 0	—	
6000	Perran Consols, t, Perran	2 0 6	1	¾ 1
3000	Perran Wheal Virgin	0 17 6	1⅝	1⅝ 1
1772	Polberro, t, St. Agnes	15 0 0	—	
2000	Polbreen, t, St. Agnes	3 15 0	7¼	6¾ 7
2000	Powell United, s-l, Cardig.*	5 0 0	—	
6000	Prince Royal, t, St. Agnes	1 5 0	—	
12800	Princess of Wales, c, t	0 11 0	⅛	
3877	Redmoor, c, t, Callington	2 5 0	—	
5000	Reperry Mine, t, c, Lanivet*	1 10 0	2½	2⅜ 2
12000	Rhydtalog, s-l, Cardiganshire	1 0 0	—	
6000	Roaring Water, c, Ireland	3 0 0	—	
3000	Roche Consols, Roche	0 11 6	⅞	
10000	Royalton, t, St. Columb	1 8 0	—	
512	South Basset, c, Gwennap	30 10 0	—	
1000	South Bwadrain, l, Cardig.	1 0 0	—	
8000	South Cardigan, l, Cardigan	5 0 0	6	5¼ 6
5000	South Carn Brea, c, t	1 6 6	⅝	⅞ 1
3000	So. Chiverton, s, l, Perranz.	6 2 6	—	
6000	South Grenville, c, Camb.	0 2 0	—	
3395	So. Herodsfoot, l, Liskeard	5 0 0	—	
1500	S. Merllyn, l, Flint* (£2 shrs)	1 10 0	—	2 2⅛
2048	South Redmoor, c, Call.	1 0 0	1¼	⅞ 1
5000	South St. Just, t	2 0 0	—	
3000	South Ward, l, Beerferris	0 15 0	—	
236	Spearne Consols, t, St. Just	6 4 4	—	
7000	Stiperstones, l, Salop*	7 0 0	—	
6000	Tamar Valley, s-l, Beeralston	1 5 0	—	
4000	Teign Valley, l, bar., Bridford	1 0 0	—	
25000	Terras Tin Mine, St. Austell*	1 0 0	1½	1¼ 1
3500	Tin Hill, t, St. Austell	1 12 0	—	
6000	Tin Valley, St. Neot	1 3 6	—	
548	Trelyon Consols, t, St. Ives	17 5 0	2	1½ 2
459	Tresavean and Trethurrup	22 11 0	—	
2048	Trevarrack, t, c, Uny Lelant	2 0 0	3	3¼ 3
10000	Treveddoe, t, c, Warleggan	1 10 0	—	
4096	Trewetha, s-l, Menheniot	11 14 6	—	
70	Tygwyn, l, Cardiganshire	25 0 0	—	
1000	Vaughan, s-l, Cardigan	2 0 0	—	
15000	Virtuous Lady, c, Tavistock*	1 0 0	—	
25000	Vron United, s-l, Cardigan	1 0 0	—	
1000	West Cwm Erfin, s-l	0 10 0	—	
256	West Damsel, c, Gwennap	40 10 0	—	
12800	W. Drake Walls, c, Calstock	0 11 0	¼	⅛ ¼
6000	West Esgair Lle, l, Cardig.*	2 0 0	—	
5000	W. Godolphin, t, c, Breage‡	0 13 6	—	
2582	West Great Work, t, Breage	6 11 0	—	
10000	West Jewell, t, Gwennap*	2 0 0	3½	3⅛ 3⅜
16	W. Margaret, t, Uny Lelant	65 0 0	70	
100	West Nant-y-Cria, l, Cardig.	10 0 0	—	
12800	West Prince of Wales, c	0 17 0	—	
12000	West Rhoswyddol, l, Mont.*	1 0 0	—	
838	West Rose Down, c, Linking.	26 10 0	—	
3535	West St. Ives, t, c, St. Ives	0 10 0	¼	¼ ½
12000	West Stiperstones, l, Salop*	1 0 0	—	
512	West Tolgus, c, Redruth	66 0 0	—	
5000	West Wh. Kitty, t, St. Agnes	3 14 0	½	¼ ½
3584	W. Wh. Tremayne, St. Erth	1 7 0	¾	½ ⅝
741	Wheal Basset and Grylls, t	8 18 6	—	
5609	Wh. Courtenay, c, Tavistock	1 0 6	—	
811	Wh. Emily Henrietta, c, Illo.	24 0 0	6	5 6
6000	Wheal Franco Consols, t, c	0 4 0	—	
6000	Wheal Ida, s-l, St. Ive	1 14 6	—	
4568	Wheal Sparnon, c, Redruth	4 0 0	—	
1920	Wh. Trannack, c, Sithney	13 3 3	—	
6240	Wh. Trelawny, s-l, Liskeard†	2 13 6	—	
400	Wye, l, Llanidloes*	20 0 0	—	

b, blende; cl, coal; c copper; g, gold; l, lead; s, silver; sl, slate; s-l, silver-lead; t, tin; z, zinc.

, Companies marked thus * have been incorporated with Limited Liability; those marked † have been admitted on the Stock Exchange, those marked thus ‡ have paid Dividends.

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